

Data Validation Checklist Inorganic Analyses

Project: 35TH Avenue Superfund Site
 Laboratory: TestAmerica – Savannah, GA
 Method: SW-846 6020A (Aluminum, Arsenic, Iron, and Lead)
 Matrix: Soil
 Reviewer: Jenine Abbassi, URS Group, Inc.
 Concurrence¹: Martha Meyers-Lee, URS Group, Inc.

Project No: 15263756.20000
 Job ID.: 680-104534-1
 Associated Samples: Refer to **Attachment A** (Sample Summary)
 Date Collected: 08/18/14-08/19/14
 Date: 01/21/2015
 Date: 01/22/2015

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample preservation requirements met? If pH of aqueous sample >2 and was not adjusted by laboratory prior to analysis, J- flag positive results and R- flag non-detect results.			✓		
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?	✓			The cooler temperature (14.0 and 13.2°C) was outside the required temperature criteria per the Login Sample Receipt Checklist, and that water was present in the cooler, indicating melted ice. According to the QAPP, the required storage temperature for metals is <4°C. Qualification of data is not warranted, as storage of metals samples to <4°C is not required per Table II in 40 CFR 136.	
4. Do any soil/sediment samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: ≤28 days, other metals: ≤6 months; Cr+6: ≤24 hours from extraction). If not, then J- flag positive results and R- flag non-detect aqueous results.		✓			
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?		✓		Resident Soil RSL with THQ = 1.0 (ORNL, November 2014) for target analytes: <ul style="list-style-type: none"> • Arsenic: 0.67 mg/Kg • Aluminum: 77,000 mg/Kg • Iron: 55,000 mg/Kg • Lead: 400 mg/Kg The MDL for each target analyte is less than the respective above mentioned RSL.	

¹ Independent technical reviewer
 URS Group, Inc.
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Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
8. Were method blank (MB) prepared at the appropriate frequency (one per 20 samples, batch, matrix, and level)?	✓				
9. Was a calibration blank (ICB/CCB) analyzed at the beginning, after every 10 th sample, and at the end of each analytical run?	✓				
10. Were target analytes detected in the method and/or calibration blanks? Form 3	✓			MB 680-345543/1-A: Iron @ 156 mg/Kg (RL is 25 mg/Kg)	
11. Were target analytes reported in equipment/rinsate blanks analyses above the DL?			✓	According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were contaminants detected in samples below the blank contamination action level? <ul style="list-style-type: none"> ○ If blank result > RL, <ul style="list-style-type: none"> • Flag sample results \leq RL with a U • Flag positive sample results > RL and $\leq 10\times$ blank result, as J+ positive results ○ If blank result \leq RL, <ul style="list-style-type: none"> • Flag sample results \leq RL with a U • Flag positive sample results > RL and $\leq 10\times$ blank result, as J+ positive results 		✓		An evaluation of the effect of blank contamination on soil sample results was based on method blank results, and not calibration blank results. A blank contamination action level (BCAL) ² of 1560 mg/Kg was developed for iron by multiplying the amount observed in blanks by a factor of 10. Sample-specific BCALs were developed by taking into account sample preparation factors, dilution factors, and percent solids (Refer to Attachment B). Qualification of data is not warranted, as all sample results were greater than sample-specific BCALs.	
13. Are there negative laboratory blank results with the absolute value \leq RL? If yes, then flag positive and non-detect sample results that are < 10x absolute blank value as J- and UJ, respectively.		✓			
14. Was a field duplicate analyzed?	✓			<ul style="list-style-type: none"> • FM0350A-CSD4" is a field duplicate of FM0350A-CS4" • HP0085A-CSD12" is a field duplicate of HP0085A-CS12" 	
15. Was precision deemed acceptable as defined by the project plans?	✓			Refer to Attachment C (Field Duplicate Evaluation)	
16. Were the instrument tune results within lab/project specifications? Form 14 <ul style="list-style-type: none"> ○ 6020A: <ul style="list-style-type: none"> • If tune not performed, then R-flag all results • If %RSD >5%, then J flag detects and UJ flag non-detects 	✓				

² BCAL developed based on the maximum amount observed in all blanks
 URS Group, Inc.
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Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
17. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument? <ul style="list-style-type: none"> ○ 6020A: <ul style="list-style-type: none"> • ICAL: Blank and one standard • ICV initially, and CCV every 10th sample and at the end of the analytical run • Lower Limit of Quantitation Check Sample (CRI) to be analyzed after establishing lower laboratory reporting limits and as needed 	✓				
18. Were these results within lab/project specifications? Forms 2A & 2B <ul style="list-style-type: none"> ○ 6020A <ul style="list-style-type: none"> • ICV/CCV (Criteria: 90-110%R): <ul style="list-style-type: none"> ▪ If %R <75, then J- flag positive results and R-flag non-detects ▪ If 75-89%R, then J- flag positive results and UJ flag non-detects ▪ If 111-125%R, then J flag positive results ▪ If >125%R, then J+ flag positive results ▪ If >160%R, then R flag positive results • CRI (Method: 70-130%R, Laboratory: 70-130%R; Project: 50-150%R for Co, Mn, Zn, and 70-130%R for all other analytes): <ul style="list-style-type: none"> ▪ If CRI %R <50 (<30% for Co, Mn, Zn), then R flag results ≤ 2x RL and J flag positive results >2x RL ▪ If CRI %R 50-69% (30-49% for Co, Mn, Zn), then J- and UJ flag positive results <2x RL and ND, respectively ▪ If CRI %R >130% and ≤180% (>150%, but ≤200% for Co, Mn, Zn), then J+ flag positive results <2x RL ▪ If CRI %R >180% (>200% for Co, Mn, Zn), then R flag positive results 	✓				
19. Was the interference check sample (ICS) analyzed at the beginning of each ICP analytical run?	✓				
20. Are ICS recoveries within 80-120% of the true value? Form 4. If not, qualify data as follows when native Al, Fe, Ca, and Mg sample concentrations are equal to or greater than the ICS spiking level: <ul style="list-style-type: none"> ○ If >120%R (or >true value plus 3x CRQL), J+ flag positive results ○ If 50-79%R (or less than true value – 3x the CRQL), J- flag positive results and UJ flag non-detects ○ If <50%R, R-flag non-detects 	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
21. Was a LCS analyzed for each preparation batch (one per 20 samples per matrix and level)?	✓				
22. Did LCS recoveries meet method/laboratory/project specifications? Form 7 <ul style="list-style-type: none"> Soil: <ul style="list-style-type: none"> LCS result > 125%R: J+ flag positive results LCS result <75%R: J- flag positive results and UJ flag non-detects 	✓				
23. Was the RPD between LCS and LCSD results within method/laboratory /project control limits ($\leq 20\%$ RPD)? If not, J and UJ flag positive and non-detect results, respectively			✓	LCS only.	
24. Was a Matrix Spike (MS) and Matrix Spike Duplicate (MSD) analyzed once per preparation batch?	✓				
25. Is the MS and MSD parent sample a project-specific sample?	✓	✓		<ul style="list-style-type: none"> Batch 345970: 680-104534-1 (CV0004A-CS4”), MS/MSD Batch 346224: None 	
26. Was a post-digestion spike (PDS) analysis conducted when MS and/or MSD results did not meet control limits (Note: PDS is not required for silver, mercury, or hexavalent chromium)?	✓			<ul style="list-style-type: none"> Batch 345970: 680-104534-1 (CV0004A-CS4”), MS/MSD Batch 346224: None 	
27. For all analytes with native sample concentrations < 4 x spiking level, are recoveries within method (6020A: 75-125%R MS/MSD and 80-120%R PDS), laboratory (MS, MSD, and PDS: 75-125%R for 6020A), and project (as noted below) specifications? <i>Only QC results for project samples are evaluated.</i> Forms 5A& 5B If not, <ul style="list-style-type: none"> 6020A: <ul style="list-style-type: none"> If MS %R <30 and PDS %R <75, then J- and R Flag positive and ND results, respectively If MS %R <30 and PDS %R ≥ 75, then J flag positive and UJ flag non-detect results If MS and MSD %R 30-74 and PDS%R <75, then J- flag positive and UJ flag non-detect results If MS and MSD %R 30-74 and PDS%R ≥ 75, then J flag positive and UJ flag non-detect results If MS, MSD, and PDS %R >125, J+ flag positive results If MS and MSD %R >125 and PDS %R ≤ 125, then J flag positive results If MS and MSD %R <30 and no PDS, then J- flag positive and R-flag non-detect results If MS and MSD %R 30-74 and no PDS, then J- and UJ flag 	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
positive and non-detect results, respectively <ul style="list-style-type: none"> If MS and MSD %R >125 and no PDS, then J+ flag positive results 					
28. For all analytes with native sample concentrations < 4 x spiking level, were laboratory/project ($\leq 20\%$ RPD) criteria met for precision during the MS and MSD analysis? <i>Only QC results for project samples are evaluated.</i> Form 5A <ul style="list-style-type: none"> If RPD >20%, J and UJ flag positive and non-detect results. 	✓				
29. Was a serial dilution conducted for 6020A?	✓				
30. Is the serial dilution parent sample a project-specific sample?	✓	✓		<ul style="list-style-type: none"> Batch 345970: 680-104534-1 (CV0004A-CS4”), MS/MSD Batch 346224: None 	
31. Is the percent difference between the serially diluted result and undiluted result less 10% (for those analytes with native concentrations greater than 50x the DL)? <i>Only QC results for project samples are evaluated.</i> Form 8 <ul style="list-style-type: none"> If %D >10, J and UJ flag positive and non-detect results, respectively. 	✓				
32. Was a laboratory duplicate analyzed?		✓			
33. Was the lab duplicate analysis conducted on a project-specific sample?			✓		
34. Were criteria for laboratory/project precision met? <i>Only QC results for project samples are evaluated.</i> <ul style="list-style-type: none"> If RPD values >20% (35% for soil/sediment) or absolute difference > RL (2x RL for soil/sediment), then J and UJ flag positive and non-detect results, respectively 			✓		

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
35. Were criteria for laboratory (70-130%)/method (60-125%) met for internal standards? Form 15 <ul style="list-style-type: none"> ○ 6020A: <ul style="list-style-type: none"> • If no internal standards, then R flag all results • If % Relative Intensity (RI) <60% or >125% of the calibration blank, and the original sample reanalyzed at 2-fold dilution: <ul style="list-style-type: none"> ▪ If %RI of diluted sample analysis meets 70-125%, do not qualify data ▪ If %RI <60% or >125%, J flag detects and UJ flag non-detects • If original sample not reanalyzed at 2-fold dilution, then use professional judgment (J flag detects and R flag non-detects) 		✓		Yttrium %RI did not fall within control limits of 60-125% during the analysis of samples 680-104534-2, -3, -4, -5, -6, -7, -10, -11, -12, -13, and -15. According to the laboratory, the yttrium internal standard is specific to strontium results. Therefore, qualification of data is not warranted. Bismuth %RI did not fall within control limits of 60-125% during the analysis of samples 680-104534-9, -12, and -13. According to the laboratory, the bismuth internal standard is specific to mercury results. Therefore, sample results associated with this work order are not affected. Alternate internal standards were used by the laboratory to assess instrument drift and physical interferences specific to the reporting of target analytes.	
36. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			Refer to Attachment D (Case Narrative)	
Comments: The data validation was conducted in accordance with the <i>Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1</i> (OTIE, October 2012). The data review process was modeled after the <i>USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Data Review</i> (EPA 540-R-04-004, October 2004). Sample results have been qualified based on the results of the data review process (Attachment E). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment					

DV Flag Definitions:

J-	The result is an estimated quantity, but the result may be biased low.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
UJ	The analyte was analyzed for, but was not detected. The reported limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A
SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-104534-1	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MS	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MSD	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-2	CV0004B-CS4"	Solid	08/18/2014 1545	08/22/2014 0926
680-104534-3	CV0163A-CS4"	Solid	08/18/2014 1620	08/22/2014 0926
680-104534-4	CV0163A-CS4"	Solid	08/18/2014 1640	08/22/2014 0926
680-104534-5	HP0085A-CS6"	Solid	08/19/2014 0910	08/22/2014 0926
680-104534-6	HP0085A-CS12"	Solid	08/19/2014 0920	08/22/2014 0926
680-104534-7	HP0085A-CSD12"	Solid	08/19/2014 0925	08/22/2014 0926
680-104534-8	HP0085A-CS18"	Solid	08/19/2014 0930	08/22/2014 0926
680-104534-9	HP0085A-CS24"	Solid	08/19/2014 0940	08/22/2014 0926
680-104534-10	HP0085B-CS6"	Solid	08/19/2014 1140	08/22/2014 0926
680-104534-11	HP0085B-CS12"	Solid	08/19/2014 1145	08/22/2014 0926
680-104534-12	HP0085B-CS18"	Solid	08/19/2014 1200	08/22/2014 0926
680-104534-13	HP0085B-CS24"	Solid	08/19/2014 1215	08/22/2014 0926
680-104534-14	FM0350A-CS4"	Solid	08/19/2014 1445	08/22/2014 0926
680-104534-15	FM0350B-CS4"	Solid	08/19/2014 1515	08/22/2014 0926
680-104534-16	FM0350C-CS4"	Solid	08/19/2014 1500	08/22/2014 0926
680-104534-17	FM0350D-CS4"	Solid	08/19/2014 1530	08/22/2014 0926
680-104534-18	FM0350A-CSD4"	Solid	08/19/2014 1450	08/22/2014 0926

ATTACHMENT B

BLANK CONTAMINATION EVALUATION

Sample-Specific Blank Contamination Action Levels

Attachment B

Parameter	RL, mg/kg	MB Result, mg/Kg	Level ¹ , mg/Kg
Iron	25	156	1560

Notes:

Laboratory blank results and sample-specific blank contamination action levels reported in milligrams per kilogram (mg/Kg).

¹ Maximum amount detected in blanks multiplied by a factor of 10

² Qualification of data is not warranted, because the sample concentration is greater than the sample-specific blank contamination action level (SS-BCAL).

Blank Contamination Actions:

- o If blank result > RL,
 - Flag sample results \leq RL with a U
 - Flag positive sample results > RL and $\leq 10 \times$ blank result, as J+ positive results
- o If blank result \leq RL,
 - Flag sample results \leq RL with a U
 - Flag positive sample results > RL and $\leq 10 \times$ blank result, as J+ positive results

Lab Sample ID	Sample ID	%Moisture	DF	Result	SS-BCAL	Action
680-104534-1	CV0004A-CS4",Solid"	19.4	1	18,000	1,935	None ²
680-104534-10	HP0085B-CS6",Solid"	12.6	4	68,000	7,140	None ²
680-104534-11	HP0085B-CS12",Solid"	9.3	4	69,000	6,880	None ²
680-104534-12	HP0085B-CS18",Solid"	9.2	10	170,000	17,181	None ²
680-104534-13	HP0085B-CS24",Solid"	10.6	10	140,000	17,450	None ²
680-104534-14	FM0350A-CS4",Solid"	21.6	1	26,000	1,990	None ²
680-104534-15	FM0350B-CS4",Solid"	10.8	1	38,000	1,749	None ²
680-104534-16	FM0350C-CS4",Solid"	20.8	1	19,000	1,970	None ²
680-104534-17	FM0350D-CS4",Solid"	21.7	1	15,000	1,992	None ²
680-104534-18	FM0350A-CSD4",Solid"	21.1	1	20,000	1,977	None ²
680-104534-2	CV0004B-CS4",Solid"	19	1	43,000	1,926	None ²
680-104534-3	CV0163A-CS4",Solid"	19.4	1	28,000	1,935	None ²
680-104534-4	CV0163A-CS4",Solid"	18.2	1	53,000	1,907	None ²
680-104534-5	HP0085A-CS6",Solid"	14.4	4	86,000	7,290	None ²
680-104534-6	HP0085A-CS12",Solid"	12	4	84,000	7,091	None ²
680-104534-7	HP0085A-CSD12",Solid"	12.7	4	110,000	7,148	None ²
680-104534-8	HP0085A-CS18",Solid"	12.2	4	110,000	7,107	None ²
680-104534-9	HP0085A-CS24",Solid"	14.4	4	120,000	7,290	None ²

ATTACHMENT C
FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results

Attachment C

Analyte	HP0085A-CS12 680-104534-6	RL	HP0085A-CSD12 680-104534-7	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Aluminum	14000	11	16000	11	mg/kg	55	13	NA	NA	None, RPD ≤ 50%
Arsenic	35	0.27	39	0.29	mg/kg	1.4	11	NA	NA	None, RPD ≤ 50%
Iron	84000	B	110000	B	mg/kg	550	27	NA	NA	None, RPD ≤ 50%
Lead	53	0.21	48	0.23	mg/kg	1.1	10	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - Milligrams per kilogram

B - Compound was found in the blank and sample

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment C

Analyte	FM0350A-CS4 680-104534-14		RL	FM0350A-CSD4 680-104534-18		RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Aluminum	9100		11	7100		12	mg/kg	57.5	25	NA	NA	None, RPD ≤ 50%
Arsenic	19		0.28	14		0.30	mg/kg	1.45	30	NA	NA	None, RPD ≤ 50%
Iron	26000	B	28	20000	B	30	mg/kg	145	26	NA	NA	None, RPD ≤ 50%
Lead	210		0.23	210		0.24	mg/kg	1.175	0	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

mg/kg - Milligrams per kilogram

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT D
CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-104534-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 8/22/2014 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 13.2° C and 14.0° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix : CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), FM0350A-CS4" (680-104534-14), FM0350A-CSD4" (680-104534-18), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085B-CS6" (680-104534-10), HP0085A-CSD12" (680-104534-7), FM0350A-CSD4" (680-104534-18). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS12" (680-104534-6), HP0085A-CS6" (680-104534-5), HP0085A-CSD12" (680-104534-7), HP0085B-CS12" (680-104534-11), HP0085B-CS6" (680-104534-10), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS18" (680-104534-12).

Samples CV0004A-CS4" (680-104534-1)[10X], CV0004B-CS4" (680-104534-2)[10X], CV0163A-CS4" (680-104534-3)[10X], CV0163A-CS4" (680-104534-4)[10X], HP0085A-CS6" (680-104534-5)[10X], HP0085A-CSD12" (680-104534-7)[10X], HP0085B-CS6" (680-104534-10)[10X], FM0350A-CS4" (680-104534-14)[10X], FM0350B-CS4" (680-104534-15)[10X], FM0350C-CS4" (680-104534-16)[10X], FM0350D-CS4" (680-104534-17)[10X] and FM0350A-CSD4" (680-104534-18)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

METALS (ICPMS)

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A.

Method(s) 6020A: The method blank for batch 680-345543 contained iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Iron was detected in method blank MB 680-345543/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Lead recovery is outside criteria low for the MS and MSD of sample CV0004A-CS4" (680-104534-1) in batch 680-345970. Aluminum and Iron recoveries are outside criteria high. Also, Iron exceeded the RPD limit.

Refer to the QC report for details.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples HP0085A-CS6" (680-104534-5)[4X], HP0085A-CS12" (680-104534-6)[4X], HP0085A-CSD12" (680-104534-7)[4X], HP0085A-CS18" (680-104534-8)[4X], HP0085A-CS24" (680-104534-9)[4X], HP0085B-CS6" (680-104534-10)[4X], HP0085B-CS12" (680-104534-11)[4X], HP0085B-CS18" (680-104534-12)[10X] and HP0085B-CS24" (680-104534-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

PERCENT SOLIDS/MOISTURE

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

ATTACHMENT E
QUALIFIED SAMPLE RESULTS

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0004A-CS4"

Lab Sample ID: 680-104534-1

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/18/2014 15:15

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 80.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7100	11	4.2	mg/Kg			1	6020A
7440-38-2	Arsenic	9.9	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	18000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	140	0.22	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	CV0004B-CS4"	Lab Sample ID:	680-104534-2
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/18/2014 15:45
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	81.0		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12000	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	19	0.29	0.11	mg/Kg			1	6020A
7439-89-6	Iron	43000	29	11	mg/Kg		B	1	6020A
7439-92-1	Lead	120	0.23	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	CV0163A-CS4"	Lab Sample ID:	680-104534-3
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/18/2014 16:20
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	80.6		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	20	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	28000	26	11	mg/Kg		P	1	6020A
7439-92-1	Lead	150	0.21	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0163A-CS4"

Lab Sample ID: 680-104534-4

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/18/2014 16:40

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 81.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	12	4.5	mg/Kg			1	6020A
7440-38-2	Arsenic	33	0.29	0.12	mg/Kg			1	6020A
7439-89-6	Iron	53000	29	12	mg/Kg		B	1	6020A
7439-92-1	Lead	300	0.23	0.12	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085A-CS6"	Lab Sample ID:	680-104534-5
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 09:10
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	85.6		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12000	10	3.9	mg/Kg			1	6020A
7440-38-2	Arsenic	36	0.25	0.10	mg/Kg			1	6020A
7439-89-6	Iron	86000	100	41	mg/Kg		B	4	6020A
7439-92-1	Lead	110	0.20	0.10	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CS12" Lab Sample ID: 680-104534-6
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 09:20
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 88.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	35	0.27	0.11	mg/Kg			1	6020A
7439-89-6	Iron	84000	110	42	mg/Kg		B	4	6020A
7439-92-1	Lead	53	0.21	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CSD12" Lab Sample ID: 680-104534-7
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 09:25
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 87.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	11	4.4	mg/Kg			1	6020A
7440-38-2	Arsenic	39	0.29	0.11	mg/Kg			1	6020A
7439-89-6	Iron	110000	110	46	mg/Kg		B	4	6020A
7439-92-1	Lead	48	0.23	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085A-CS18"	Lab Sample ID:	680-104534-8
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 09:30
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	87.8		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	42	0.27	0.11	mg/Kg			1	6020A
7439-89-6	Iron	110000	110	43	mg/Kg		B	4	6020A
7439-92-1	Lead	48	0.21	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085A-CS24"	Lab Sample ID:	680-104534-9
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 09:40
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	85.6		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	18000	11	4.2	mg/Kg			1	6020A
7440-38-2	Arsenic	56	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	120000	110	44	mg/Kg		P	4	6020A
7439-92-1	Lead	130	0.22	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085B-CS6" Lab Sample ID: 680-104534-10
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 11:40
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 87.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	29	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	68000	110	42	mg/Kg		P	4	6020A
7439-92-1	Lead	160	0.21	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085B-CS12"	Lab Sample ID:	680-104534-11
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 11:45
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	90.7		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	30	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	69000	110	42	mg/Kg		B	4	6020A
7439-92-1	Lead	46	0.21	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085B-CS18" Lab Sample ID: 680-104534-12

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/19/2014 12:00

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 90.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	9.7	3.7	mg/Kg			1	6020A
7440-38-2	Arsenic	63	0.24	0.097	mg/Kg			1	6020A
7439-89-6	Iron	170000	240	97	mg/Kg		B	10	6020A
7439-92-1	Lead	56	0.19	0.097	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085B-CS24" Lab Sample ID: 680-104534-13
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 12:15
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 89.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	10	3.8	mg/Kg			1	6020A
7440-38-2	Arsenic	50	0.25	0.10	mg/Kg			1	6020A
7439-89-6	Iron	140000	250	100	mg/Kg		B	10	6020A
7439-92-1	Lead	81	0.20	0.10	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350A-CS4"

Lab Sample ID: 680-104534-14

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/19/2014 14:45

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 78.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	9100	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	19	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	26000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	210	0.23	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350B-CS4"

Lab Sample ID: 680-104534-15

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/19/2014 15:15

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 89.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	10	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	23	0.26	0.10	mg/Kg			1	6020A
7439-89-6	Iron	38000	26	10	mg/Kg		B	1	6020A
7439-92-1	Lead	140	0.21	0.10	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	FM0350C-CS4"	Lab Sample ID:	680-104534-16
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 15:00
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	79.2		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7400	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	11	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	19000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	300	0.23	0.11	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350D-CS4"

Lab Sample ID: 680-104534-17

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/19/2014 15:30

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 78.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7800	12	4.4	mg/Kg			1	6020A
7440-38-2	Arsenic	9.7	0.29	0.12	mg/Kg			1	6020A
7439-89-6	Iron	15000	29	12	mg/Kg		B	1	6020A
7439-92-1	Lead	180	0.23	0.12	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	FM0350A-CSD4"	Lab Sample ID:	680-104534-18
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 14:50
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	78.9		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7100	12	4.6	mg/Kg			1	6020A
7440-38-2	Arsenic	14	0.30	0.12	mg/Kg			1	6020A
7439-89-6	Iron	20000	30	12	mg/Kg		B	1	6020A
7439-92-1	Lead	210	0.24	0.12	mg/Kg			1	6020A

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama. Revision 1 (OTIE, October 2012)

Data Validation Checklist Semivolatile Organic Analyses

Project: 35TH Avenue Superfund Site
 Laboratory: TestAmerica - Savannah, GA¹
 Method: SW-846 8270D Low-Level (PAH)
 Matrix: Soil
 Reviewer: Jenine Abbassi, URS Group, Inc.
 Concurrence²: Martha Meyers-Lee, URS Group, Inc.

Project No: 15263756.20000
 Job ID.: 680-104534-1
 Associated Samples: Refer to **Attachment A** (Sample Summary)
 Date(s) Collected: 08/18/2014-08/19/2014
 Date: 01/20/2015
 Date: 01/22/2015

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ flag results.		✓		The cooler temperature (14.0 and 13.2°C) was outside required temperature criteria (≤6°C) per Login Sample Receipt Checklist and Case Narrative, and that water was present in the cooler, indicating melted ice. All PAH samples results are estimated (J, UJ).	J, UJ
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?	✓			Temperature of samples upon receipt did not meet required temperature criteria.	
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met (≤7 and 14 days from collection to extraction for aqueous and solid samples, respectively; ≤40 days from extraction to analysis)? If not, then J/UJ flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J flag sample result.			✓		
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			

¹ All analytical work subcontracted to TestAmerica of Tampa, FL

² Independent technical reviewer

URS Group, Inc.

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
11. Were target analytes detected in equipment/rinsate blanks?			✓		
12. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.		✓		According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event.	
13. Were analytes detected in samples below the blank contamination action level? If yes, U flag positive sample results <5x associated blank concentration (10x for common blank contaminants – phthalates)			✓	Blank contamination does not exist.	
14. Is a field duplicate associated with this Job?	✓			<ul style="list-style-type: none"> FM0350A-CSD4 is a field duplicate of FM0350A-CS4 HP0085A-CSD12 is a field duplicate of HP0085A-CS12. 	
15. Was precision deemed acceptable as defined by the project plans?		✓		Refer to Attachment B (Field Duplicate Evaluation)	J
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270C) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2.	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? <ul style="list-style-type: none"> Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative. An initial calibration is to be associated with each sample analysis. A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument. 	✓			<ul style="list-style-type: none"> Instrument ID: CMSK Initial Calibration: 08/22/2014 ICV: 08/22/14 @ 14:40 CCV: 08/26/14 @ 13:59, 08/25/14 @ 11:27, & 08/29/14 @ 10:37 	
19. Were calibration results within laboratory/project specifications? <ul style="list-style-type: none"> ICAL (Criteria: ≤ 20 mean %RSD ($\leq 50\%$ for poor performers), OR $r \geq 0.995$, OR $r^2 \geq 0.99$, and RRF ≥ 0.050 (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If %RSD > 20 ($> 50\%$ for poor performers), or $r < 0.995$, 	✓			CCV of 08/29/14 @ 10:37, instrument CMSK: <ul style="list-style-type: none"> Fluorene @ 20.8%D (Lab/Project: ≤ 20). Phenanthrene @ 21.2%D (Lab/Project: ≤ 20). Anthracene @ 20.9%D (Lab/Project: ≤ 20). Fluoranthene @ 27.6%D (Lab/Project: ≤ 20). Benzo(k)fluoranthene @ 27.9%D (Lab/Project: ≤ 20). 	J

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
<p>or $r^2 < 0.995$, then J flag positive results and UJ flag non-detects</p> <ul style="list-style-type: none"> If mean RRF < 0.050 (< 0.010 for poor performers), then J flag positive results and R flag non-detects (unless the lab analyzed a detectability check standard) ICV and CCV (ICV Criteria: $\leq \pm 30\%D$; CCV Criteria: $\leq \pm 20\%D$ ($\leq 50\%$ for poor performers) and $RF \geq 0.050$ (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If $\%D > \text{Control Limit}$ ($> 50\%$ for poor performers), then J flag positive results and UJ flag non-detects If $RF < 0.050$ (< 0.010 for poor performers), then UJ flag non-detected semivolatile target compounds 				<ul style="list-style-type: none"> Benzo(a)pyrene @ 26.5%D (Lab/Project: ≤ 20). Indeno(1,2,3-cd)pyrene @ 38.0%D (Lab/Project: ≤ 20). Benzo(g,h,i)perylene @ 23.5%D (Lab/Project: ≤ 20). <p>A positive bias is indicated by the CCV percent difference. Detected results for the above-mentioned analytes are estimated (J-flagged) in associated samples³.</p>	
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J flag positive results when $\%R > \text{Upper Control Limit (UCL)}$ and J/R flag results when $\%R < \text{Lower Control Limit (LCL)}$.	✓				
22. Were LCS/LCSD RPD within lab specifications? If no, J flag positive results and UJ flag non-detects			✓	LCS Only	
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			Prep Batch 345506: 680-104534-1 (CV0004A-CS4”), MS/MSD	
25. Were MS/MSD recoveries within laboratory/project specifications? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> If the native sample concentration $> 4x$ spiking level, then an evaluation of interference is not possible. If either MS or MSD recovery meets control limits, qualification of data is not warranted. MS and MSD $\%R < 10$: J and R Flag positive and ND results, respectively MS and MSD $\%R > 10$ and $< \text{LCL}$: J Flag positive and UJ flag non-detect results MS and MSD $\%R > \text{UCL}$ (or 140): J Flag positive results 	✓				

³ 680-104534-6, -13, and -18
URS Group, Inc.
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Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
26. Were laboratory criteria met for precision during the MS/MSD analysis? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. If %RPD > UCL, J flag positive result and UJ flag non-detect result 	✓				
27. Were surrogate recoveries within lab/project specifications? <ul style="list-style-type: none"> If %R for 1 Acid or BN surrogates <10, then J flag positive and R flag non-detect associated sample results (i.e., acid or BN results) If 2 or more Acid or BN %R >UCL, then J flag positive associated sample results (i.e., acid or BN results) If 2 or more Acid or BN %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) If 2 or more Acid or BN, with 1 %R >UCL and 1 %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) 		✓		Surrogate o-terphenyl was not recovered (0%) during the diluted analysis of samples 680-104534-1 through -5, -7, -10, and -14 through-18. Qualification of sample results is not warranted, as the surrogate compound was diluted out of the samples.	
28. Were internal standard (IS) results within lab/project specifications? <ul style="list-style-type: none"> If IS area counts are less than 50% of the midpoint calibration standard, then J flag positive and UJ flag non-detect associated sample results If IS area counts are greater than 100% of the midpoint calibration standard, then J flag positive results If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J flag positive and R flag non-detect results If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R flag associated data. The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that 	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met.					
29. Were lab comments included in report?	✓			Refer to Attachment C (Case Narrative)	
Comments: The data validation was conducted in accordance with the <i>Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1</i> (OTIE, October 2012). The data review process was modeled after the <i>USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review</i> (EPA, October 1999) and <i>USEPA CLP NFG for Low Concentration Organic Methods Data Review</i> (EPA, June 2001). Sample results have been qualified based on the results of the data review process (Attachment D). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.					

DV Flag Definitions:

- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- R The sample results are unusable. The analyte may or may not be present in the sample.
- U The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
- UJ The analyte was not detected above the limit, and the limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A
SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-104534-1	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MS	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MSD	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-2	CV0004B-CS4"	Solid	08/18/2014 1545	08/22/2014 0926
680-104534-3	CV0163A-CS4"	Solid	08/18/2014 1620	08/22/2014 0926
680-104534-4	CV0163A-CS4"	Solid	08/18/2014 1640	08/22/2014 0926
680-104534-5	HP0085A-CS6"	Solid	08/19/2014 0910	08/22/2014 0926
680-104534-6	HP0085A-CS12"	Solid	08/19/2014 0920	08/22/2014 0926
680-104534-7	HP0085A-CSD12"	Solid	08/19/2014 0925	08/22/2014 0926
680-104534-8	HP0085A-CS18"	Solid	08/19/2014 0930	08/22/2014 0926
680-104534-9	HP0085A-CS24"	Solid	08/19/2014 0940	08/22/2014 0926
680-104534-10	HP0085B-CS6"	Solid	08/19/2014 1140	08/22/2014 0926
680-104534-11	HP0085B-CS12"	Solid	08/19/2014 1145	08/22/2014 0926
680-104534-12	HP0085B-CS18"	Solid	08/19/2014 1200	08/22/2014 0926
680-104534-13	HP0085B-CS24"	Solid	08/19/2014 1215	08/22/2014 0926
680-104534-14	FM0350A-CS4"	Solid	08/19/2014 1445	08/22/2014 0926
680-104534-15	FM0350B-CS4"	Solid	08/19/2014 1515	08/22/2014 0926
680-104534-16	FM0350C-CS4"	Solid	08/19/2014 1500	08/22/2014 0926
680-104534-17	FM0350D-CS4"	Solid	08/19/2014 1530	08/22/2014 0926
680-104534-18	FM0350A-CSD4"	Solid	08/19/2014 1450	08/22/2014 0926

ATTACHMENT B
FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results

Attachment B

Analyte	HP0085A-CS12 680-104534-6	RL	HP0085A-CSD12 680-104534-7	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Acenaphthylene	15	7.6		77	µg/kg	211.5	NA	15	84.6	None, absolute difference ≤ 2x Avg RL
Anthracene	17	7.6		77	µg/kg	211.5	NA	17	84.6	None, absolute difference ≤ 2x Avg RL
Benzo(a)anthracene	140	7.6	210	77	µg/kg	211.5	NA	70	84.6	None, absolute difference ≤ 2x Avg RL
Benzo(a)pyrene	150	7.6	250	77	µg/kg	211.5	NA	100	84.6	J/UJ-flag, absolute difference > 2x Avg RL
Benzo(b)fluoranthene	210	7.6	320	77	µg/kg	211.5	NA	110	84.6	J/UJ-flag, absolute difference > 2x Avg RL
Benzo(g,h,i)perylene	110	7.6	180	77	µg/kg	211.5	NA	70	84.6	None, absolute difference ≤ 2x Avg RL
Benzo(k)fluoranthene	80	7.6	160	77	µg/kg	211.5	NA	80	84.6	None, absolute difference ≤ 2x Avg RL
Chrysene	130	7.6	180	77	µg/kg	211.5	NA	50	84.6	None, absolute difference ≤ 2x Avg RL
Dibenzo(a,h)anthracene	27	7.6		77	µg/kg	211.5	NA	27	84.6	None, absolute difference ≤ 2x Avg RL
Fluoranthene	260	7.6	340	77	µg/kg	211.5	27	NA	NA	None, RPD ≤ 50%
Indeno(1,2,3-cd)pyrene	74	7.6	110	77	µg/kg	211.5	NA	36	84.6	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	4.7 J	7.6		77	µg/kg	211.5	NA	4.7	84.6	None, absolute difference ≤ 2x Avg RL
Naphthalene	12	7.6		77	µg/kg	211.5	NA	12	84.6	None, absolute difference ≤ 2x Avg RL
Phenanthrene	79	7.6	100	77	µg/kg	211.5	NA	21	84.6	None, absolute difference ≤ 2x Avg RL
Pyrene	250	7.6	410	77	µg/kg	211.5	48	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment B

Analyte	FM0350A-CS4 680-104534-14	RL	FM0350A-CSD4 680-104534-18	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
Anthracene	87	85	74 J	85	µg/kg	425	NA	13	170	None, absolute difference ≤ 2x Avg RL
Benzo(a)anthracene	670	85	600	85	µg/kg	425	11	NA	NA	None, RPD ≤ 50%
Benzo(a)pyrene	700	85	580	85	µg/kg	425	19	NA	NA	None, RPD ≤ 50%
Benzo(b)fluoranthene	1100	85	920	85	µg/kg	425	18	NA	NA	None, RPD ≤ 50%
Benzo(g,h,i)perylene	330	85	420	85	µg/kg	425	NA	90	170	None, absolute difference ≤ 2x Avg RL
Benzo(k)fluoranthene	450	85	400	85	µg/kg	425	NA	50	170	None, absolute difference ≤ 2x Avg RL
Chrysene	860	85	700	85	µg/kg	425	21	NA	NA	None, RPD ≤ 50%
Dibenzo(a,h)anthracene	110	85	160	85	µg/kg	425	NA	50	170	None, absolute difference ≤ 2x Avg RL
Fluoranthene	1300	85	1100	85	µg/kg	425	17	NA	NA	None, RPD ≤ 50%
Indeno(1,2,3-cd)pyrene	340	85	330	85	µg/kg	425	NA	10	170	None, absolute difference ≤ 2x Avg RL
1-Methylnaphthalene	87	85	71 J	85	µg/kg	425	NA	16	170	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	96	85	79 J	85	µg/kg	425	NA	17	170	None, absolute difference ≤ 2x Avg RL
Naphthalene	82 J	85	62 J	85	µg/kg	425	NA	20	170	None, absolute difference ≤ 2x Avg RL
Phenanthrene	590	85	440	85	µg/kg	425	29	NA	NA	None, RPD ≤ 50%
Pyrene	1000	85	820	85	µg/kg	425	20	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

UJ - Not detected and the limit is estimated

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C
CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-104534-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 8/22/2014 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 13.2° C and 14.0° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix : CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), FM0350A-CS4" (680-104534-14), FM0350A-CSD4" (680-104534-18), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085B-CS6" (680-104534-10), HP0085A-CSD12" (680-104534-7), FM0350A-CSD4" (680-104534-18). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS12" (680-104534-6), HP0085A-CS6" (680-104534-5), HP0085A-CSD12" (680-104534-7), HP0085B-CS12" (680-104534-11), HP0085B-CS6" (680-104534-10), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS18" (680-104534-12).

Samples CV0004A-CS4" (680-104534-1)[10X], CV0004B-CS4" (680-104534-2)[10X], CV0163A-CS4" (680-104534-3)[10X], CV0163A-CS4" (680-104534-4)[10X], HP0085A-CS6" (680-104534-5)[10X], HP0085A-CSD12" (680-104534-7)[10X], HP0085B-CS6" (680-104534-10)[10X], FM0350A-CS4" (680-104534-14)[10X], FM0350B-CS4" (680-104534-15)[10X], FM0350C-CS4" (680-104534-16)[10X], FM0350D-CS4" (680-104534-17)[10X] and FM0350A-CSD4" (680-104534-18)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

METALS (ICPMS)

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A.

Method(s) 6020A: The method blank for batch 680-345543 contained iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Iron was detected in method blank MB 680-345543/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Lead recovery is outside criteria low for the MS and MSD of sample CV0004A-CS4" (680-104534-1) in batch 680-345970. Aluminum and Iron recoveries are outside criteria high. Also, Iron exceeded the RPD limit.

Refer to the QC report for details.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples HP0085A-CS6" (680-104534-5)[4X], HP0085A-CS12" (680-104534-6)[4X], HP0085A-CSD12" (680-104534-7)[4X], HP0085A-CS18" (680-104534-8)[4X], HP0085A-CS24" (680-104534-9)[4X], HP0085B-CS6" (680-104534-10)[4X], HP0085B-CS12" (680-104534-11)[4X], HP0085B-CS18" (680-104534-12)[10X] and HP0085B-CS24" (680-104534-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

PERCENT SOLIDS/MOISTURE

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

ATTACHMENT D
QUALIFIED SAMPLE RESULTS

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004A-CS4"</u>	Lab Sample ID: <u>680-104534-1</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2509.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/25/2014 14:49</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U J	83	41
208-96-8	Acenaphthylene	83	U J	83	41
120-12-7	Anthracene	64	J	83	41
56-55-3	Benzo[a]anthracene	410	J	83	41
50-32-8	Benzo[a]pyrene	390		83	15
205-99-2	Benzo[b]fluoranthene	660		83	41
191-24-2	Benzo[g,h,i]perylene	330		83	41
207-08-9	Benzo[k]fluoranthene	260		83	25
218-01-9	Chrysene	470		83	41
53-70-3	Dibenz(a,h)anthracene	97		83	41
206-44-0	Fluoranthene	730		83	41
86-73-7	Fluorene	83	U J	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	250	J	83	41
90-12-0	1-Methylnaphthalene	77	J	83	38
91-57-6	2-Methylnaphthalene	77	J	83	41
91-20-3	Naphthalene	54	J	83	41
85-01-8	Phenanthrene	400	J	83	30
129-00-0	Pyrene	640	J	83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004B-CS4"</u>	Lab Sample ID: <u>680-104534-2</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2510.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:45</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.05(g)</u>	Date Analyzed: <u>08/25/2014 15:12</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.0</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	UJ	83	41
208-96-8	Acenaphthylene	83	UJ	83	41
120-12-7	Anthracene	54	J	83	41
56-55-3	Benzo[a]anthracene	240	J	83	41
50-32-8	Benzo[a]pyrene	220		83	15
205-99-2	Benzo[b]fluoranthene	370		83	41
191-24-2	Benzo[g,h,i]perylene	160		83	41
207-08-9	Benzo[k]fluoranthene	140		83	25
218-01-9	Chrysene	320		83	41
53-70-3	Dibenz(a,h)anthracene	83	UJ	83	41
206-44-0	Fluoranthene	420	J	83	41
86-73-7	Fluorene	83	UJ	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	110	J	83	41
90-12-0	1-Methylnaphthalene	85		83	38
91-57-6	2-Methylnaphthalene	120		83	41
91-20-3	Naphthalene	100		83	41
85-01-8	Phenanthrene	350		83	30
129-00-0	Pyrene	390		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: CV0163A-CS4" Lab Sample ID: 680-104534-3
 Matrix: Solid Lab File ID: 1YH2511.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/18/2014 16:20
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.02(g) Date Analyzed: 08/25/2014 15:34
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 19.4 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345693 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	UJ	83	41
208-96-8	Acenaphthylene	83	UJ	83	41
120-12-7	Anthracene	83	UJ	83	41
56-55-3	Benzo[a]anthracene	170	J	83	41
50-32-8	Benzo[a]pyrene	170	J	83	15
205-99-2	Benzo[b]fluoranthene	280	J	83	41
191-24-2	Benzo[g,h,i]perylene	160	J	83	41
207-08-9	Benzo[k]fluoranthene	130	J	83	25
218-01-9	Chrysene	220	J	83	41
53-70-3	Dibenz(a,h)anthracene	47	J	83	41
206-44-0	Fluoranthene	260	J	83	41
86-73-7	Fluorene	83	UJ	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	82	J	83	41
90-12-0	1-Methylnaphthalene	99	J	83	38
91-57-6	2-Methylnaphthalene	110	J	83	41
91-20-3	Naphthalene	76	J	83	41
85-01-8	Phenanthrene	200	J	83	30
129-00-0	Pyrene	270	J	83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)
 FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: CV0163A-CS4" Lab Sample ID: 680-104534-4
 Matrix: Solid Lab File ID: 1YH2512.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/18/2014 16:40
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.04(g) Date Analyzed: 08/25/2014 15:56
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 18.2 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345693 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	82	UJ	82	40
208-96-8	Acenaphthylene	82	UJ	82	40
120-12-7	Anthracene	82	UJ	82	40
56-55-3	Benzo[a]anthracene	220	J	82	40
50-32-8	Benzo[a]pyrene	230	J	82	15
205-99-2	Benzo[b]fluoranthene	370	J	82	40
191-24-2	Benzo[g,h,i]perylene	190	J	82	40
207-08-9	Benzo[k]fluoranthene	130	J	82	24
218-01-9	Chrysene	260	J	82	40
53-70-3	Dibenz(a,h)anthracene	82	UJ	82	40
206-44-0	Fluoranthene	340	J	82	40
86-73-7	Fluorene	82	UJ	82	40
193-39-5	Indeno[1,2,3-cd]pyrene	120	J	82	40
90-12-0	1-Methylnaphthalene	53	J	82	38
91-57-6	2-Methylnaphthalene	62	J	82	40
91-20-3	Naphthalene	61	J	82	40
85-01-8	Phenanthrene	180	J	82	29
129-00-0	Pyrene	340	J	82	40

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085A-CS6" Lab Sample ID: 680-104534-5
 Matrix: Solid Lab File ID: 1YH2513.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 09:10
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.01(g) Date Analyzed: 08/25/2014 16:19
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 14.4 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345693 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	78	UJ	78	39
208-96-8	Acenaphthylene	180	J	78	39
120-12-7	Anthracene	180		78	39
56-55-3	Benzo[a]anthracene	1500		78	39
50-32-8	Benzo[a]pyrene	1800		78	14
205-99-2	Benzo[b]fluoranthene	2200		78	39
191-24-2	Benzo[g,h,i]perylene	1200		78	39
207-08-9	Benzo[k]fluoranthene	1100		78	23
218-01-9	Chrysene	1300		78	39
53-70-3	Dibenz(a,h)anthracene	290		78	39
206-44-0	Fluoranthene	2500	↓	78	39
86-73-7	Fluorene	78	UJ	78	39
193-39-5	Indeno[1,2,3-cd]pyrene	790	J	78	39
90-12-0	1-Methylnaphthalene	40	J	78	36
91-57-6	2-Methylnaphthalene	64	J	78	39
91-20-3	Naphthalene	160	J	78	39
85-01-8	Phenanthrene	810	J	78	28
129-00-0	Pyrene	3100	J	78	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085A-CS12" Lab Sample ID: 680-104534-6
 Matrix: Solid Lab File ID: 1YH2918.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 09:20
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.02(g) Date Analyzed: 08/29/2014 16:30
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 12.0 GPC Cleanup:(Y/N) N
 Analysis Batch No.: 346540 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	UJ	7.6	3.7
208-96-8	Acenaphthylene	15	J	7.6	3.7
120-12-7	Anthracene	17	J	7.6	3.7
56-55-3	Benzo[a]anthracene	140	J	7.6	3.7
50-32-8	Benzo[a]pyrene	150	J	7.6	1.4
205-99-2	Benzo[b]fluoranthene	210	J	7.6	3.7
191-24-2	Benzo[g,h,i]perylene	110	J	7.6	3.7
207-08-9	Benzo[k]fluoranthene	80	J	7.6	2.3
218-01-9	Chrysene	130	J	7.6	3.7
53-70-3	Dibenz(a,h)anthracene	27	J	7.6	3.7
206-44-0	Fluoranthene	260	J	7.6	3.7
86-73-7	Fluorene	7.6	UJ	7.6	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	74	J	7.6	3.7
90-12-0	1-Methylnaphthalene	7.6	UJ	7.6	3.5
91-57-6	2-Methylnaphthalene	4.7	J	7.6	3.7
91-20-3	Naphthalene	12	J	7.6	3.7
85-01-8	Phenanthrene	79	J	7.6	2.7
129-00-0	Pyrene	250	J	7.6	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	105		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Client Sample ID: HP0085A-CSD12" Lab Sample ID: 680-104534-7
Matrix: Solid Lab File ID: 1YH2515.D
Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 09:25
Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
Sample wt/vol: 30.01(g) Date Analyzed: 08/25/2014 17:04
Con. Extract Vol.: 1(mL) Dilution Factor: 10
Injection Volume: 2(uL) Level: (low/med) Low
% Moisture: 12.7 GPC Cleanup: (Y/N) N
Analysis Batch No.: 345693 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	UJ	77	38
208-96-8	Acenaphthylene	77	UJ	77	38
120-12-7	Anthracene	77	UJ	77	38
56-55-3	Benzo[a]anthracene	210	J	77	38
50-32-8	Benzo[a]pyrene	250		77	14
205-99-2	Benzo[b]fluoranthene	320		77	38
191-24-2	Benzo[g,h,i]perylene	180		77	38
207-08-9	Benzo[k]fluoranthene	160		77	23
218-01-9	Chrysene	180		77	38
53-70-3	Dibenz(a,h)anthracene	77	UJ	77	38
206-44-0	Fluoranthene	340	J	77	38
86-73-7	Fluorene	77	UJ	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	110	J	77	38
90-12-0	1-Methylnaphthalene	77	UJ	77	36
91-57-6	2-Methylnaphthalene	77	UJ	77	38
91-20-3	Naphthalene	77	UJ	77	38
85-01-8	Phenanthrene	100	J	77	27
129-00-0	Pyrene	410	J	77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)
FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085A-CS18" Lab Sample ID: 680-104534-8
 Matrix: Solid Lab File ID: 1KH2624.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 09:30
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.01(g) Date Analyzed: 08/26/2014 23:03
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 12.2 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345964 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	UJ	7.6	3.8
208-96-8	Acenaphthylene	7.6	UJ	7.6	3.8
120-12-7	Anthracene	7.6	UJ	7.6	3.8
56-55-3	Benzo[a]anthracene	8.4	J	7.6	3.8
50-32-8	Benzo[a]pyrene	11	J	7.6	1.4
205-99-2	Benzo[b]fluoranthene	15	J	7.6	3.8
191-24-2	Benzo[g,h,i]perylene	17	J	7.6	3.8
207-08-9	Benzo[k]fluoranthene	4.2	J	7.6	2.3
218-01-9	Chrysene	9.3	J	7.6	3.8
53-70-3	Dibenz(a,h)anthracene	7.9	J	7.6	3.8
206-44-0	Fluoranthene	13	J	7.6	3.8
86-73-7	Fluorene	7.6	UJ	7.6	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	15	J	7.6	3.8
90-12-0	1-Methylnaphthalene	7.6	UJ	7.6	3.5
91-57-6	2-Methylnaphthalene	7.6	UJ	7.6	3.8
91-20-3	Naphthalene	7.6	UJ	7.6	3.8
85-01-8	Phenanthrene	5.1	J	7.6	2.7
129-00-0	Pyrene	14	J	7.6	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	97		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085A-CS24" Lab Sample ID: 680-104534-9
 Matrix: Solid Lab File ID: 1KH2625.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 09:40
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.02(g) Date Analyzed: 08/26/2014 23:26
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 14.4 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345964 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.8	UJ	7.8	3.9
208-96-8	Acenaphthylene	7.8	UJ	7.8	3.9
120-12-7	Anthracene	7.8	UJ	7.8	3.9
56-55-3	Benzo[a]anthracene	31	J	7.8	3.9
50-32-8	Benzo[a]pyrene	38		7.8	1.4
205-99-2	Benzo[b]fluoranthene	49		7.8	3.9
191-24-2	Benzo[g,h,i]perylene	32		7.8	3.9
207-08-9	Benzo[k]fluoranthene	20		7.8	2.3
218-01-9	Chrysene	32		7.8	3.9
53-70-3	Dibenz(a,h)anthracene	8.2		7.8	3.9
206-44-0	Fluoranthene	55		7.8	3.9
86-73-7	Fluorene	7.8	UJ	7.8	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	28	J	7.8	3.9
90-12-0	1-Methylnaphthalene	7.8	UJ	7.8	3.6
91-57-6	2-Methylnaphthalene	7.8	UJ	7.8	3.9
91-20-3	Naphthalene	5.4	J	7.8	3.9
85-01-8	Phenanthrene	17	J	7.8	2.8
129-00-0	Pyrene	61	J	7.8	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	108		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085B-CS6" Lab Sample ID: 680-104534-10
 Matrix: Solid Lab File ID: 1YH2518.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 11:40
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.01(g) Date Analyzed: 08/25/2014 18:11
 Con. Extract Vol.: 1 (mL) Dilution Factor: 10
 Injection Volume: 2 (uL) Level: (low/med) Low
 % Moisture: 12.6 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345693 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U J	77	38
208-96-8	Acenaphthylene	77	U J	77	38
120-12-7	Anthracene	77	U J	77	38
56-55-3	Benzo[a]anthracene	46	J	77	38
50-32-8	Benzo[a]pyrene	57	J	77	14
205-99-2	Benzo[b]fluoranthene	97	J	77	38
191-24-2	Benzo[g,h,i]perylene	77	U J	77	38
207-08-9	Benzo[k]fluoranthene	36	J	77	23
218-01-9	Chrysene	71	J	77	38
53-70-3	Dibenz (a,h) anthracene	77	U J	77	38
206-44-0	Fluoranthene	80	J	77	38
86-73-7	Fluorene	77	U J	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	77	U J	77	38
90-12-0	1-Methylnaphthalene	77	U J	77	35
91-57-6	2-Methylnaphthalene	77	U J	77	38
91-20-3	Naphthalene	77	U J	77	38
85-01-8	Phenanthrene	56	J	77	27
129-00-0	Pyrene	84	J	77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS12"</u>	Lab Sample ID: <u>680-104534-11</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2519.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 11:45</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 18:34</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>9.3</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.4	UJ	7.4	3.6
208-96-8	Acenaphthylene	7.4	UJ	7.4	3.6
120-12-7	Anthracene	7.4	UJ	7.4	3.6
56-55-3	Benzo[a]anthracene	8.2	J	7.4	3.6
50-32-8	Benzo[a]pyrene	9.2	J	7.4	1.3
205-99-2	Benzo[b]fluoranthene	16	J	7.4	3.6
191-24-2	Benzo[g,h,i]perylene	8.4	J	7.4	3.6
207-08-9	Benzo[k]fluoranthene	6.2	J	7.4	2.2
218-01-9	Chrysene	11	J	7.4	3.6
53-70-3	Dibenz(a,h)anthracene	7.4	UJ	7.4	3.6
206-44-0	Fluoranthene	13	J	7.4	3.6
86-73-7	Fluorene	7.4	UJ	7.4	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	5.5	J	7.4	3.6
90-12-0	1-Methylnaphthalene	7.4	UJ	7.4	3.4
91-57-6	2-Methylnaphthalene	7.4	UJ	7.4	3.6
91-20-3	Naphthalene	5.2	J	7.4	3.6
85-01-8	Phenanthrene	9.1	J	7.4	2.6
129-00-0	Pyrene	13	J	7.4	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	99		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: HP0085B-CS18" Lab Sample ID: 680-104534-12
 Matrix: Solid Lab File ID: 1KH2626.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 12:00
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.04(g) Date Analyzed: 08/26/2014 23:49
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 9.2 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345964 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.4	U	7.4	3.6
208-96-8	Acenaphthylene	7.4	U	7.4	3.6
120-12-7	Anthracene	7.4	U	7.4	3.6
56-55-3	Benzo[a]anthracene	3.7	J	7.4	3.6
50-32-8	Benzo[a]pyrene	3.9	J	7.4	1.3
205-99-2	Benzo[b]fluoranthene	6.5	J	7.4	3.6
191-24-2	Benzo[g,h,i]perylene	3.6	J	7.4	3.6
207-08-9	Benzo[k]fluoranthene	2.3	J	7.4	2.2
218-01-9	Chrysene	6.1	J	7.4	3.6
53-70-3	Dibenz(a,h)anthracene	7.4	U	7.4	3.6
206-44-0	Fluoranthene	4.6	J	7.4	3.6
86-73-7	Fluorene	7.4	U	7.4	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	3.6	J	7.4	3.6
90-12-0	1-Methylnaphthalene	7.4	U	7.4	3.4
91-57-6	2-Methylnaphthalene	7.4	U	7.4	3.6
91-20-3	Naphthalene	7.4	U	7.4	3.6
85-01-8	Phenanthrene	5.3	J	7.4	2.6
129-00-0	Pyrene	4.0	J	7.4	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	97		36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS24"</u>	Lab Sample ID: <u>680-104534-13</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2919.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 12:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.05(g)</u>	Date Analyzed: <u>08/29/2014 16:53</u>
Con. Extract Vol.: <u>1 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2 (uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>10.6</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>346540</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.5	UJ	7.5	3.7
208-96-8	Acenaphthylene	7.5	UJ	7.5	3.7
120-12-7	Anthracene	7.5	UJ	7.5	3.7
56-55-3	Benzo[a]anthracene	7.5	UJ	7.5	3.7
50-32-8	Benzo[a]pyrene	3.0	J	7.5	1.3
205-99-2	Benzo[b]fluoranthene	4.2	J	7.5	3.7
191-24-2	Benzo[g,h,i]perylene	7.5	UJ	7.5	3.7
207-08-9	Benzo[k]fluoranthene	7.5	UJ	7.5	2.2
218-01-9	Chrysene	3.7	J	7.5	3.7
53-70-3	Dibenz(a,h)anthracene	7.5	UJ	7.5	3.7
206-44-0	Fluoranthene	4.3	J	7.5	3.7
86-73-7	Fluorene	7.5	UJ	7.5	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	7.5	UJ	7.5	3.7
90-12-0	1-Methylnaphthalene	7.5	UJ	7.5	3.5
91-57-6	2-Methylnaphthalene	7.5	UJ	7.5	3.7
91-20-3	Naphthalene	7.5	UJ	7.5	3.7
85-01-8	Phenanthrene	2.9	J	7.5	2.7
129-00-0	Pyrene	7.5	UJ	7.5	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	95		36-131

FORM I 8270D_LL_PAH Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: FM0350A-CS4" Lab Sample ID: 680-104534-14
 Matrix: Solid Lab File ID: 1KH2627.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 14:45
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.03(g) Date Analyzed: 08/27/2014 00:12
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 21.6 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345964 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	U J	85	42
208-96-8	Acenaphthylene	85	U J	85	42
120-12-7	Anthracene	87	J	85	42
56-55-3	Benzo[a]anthracene	670		85	42
50-32-8	Benzo[a]pyrene	700		85	15
205-99-2	Benzo[b]fluoranthene	1100		85	42
191-24-2	Benzo[g,h,i]perylene	330		85	42
207-08-9	Benzo[k]fluoranthene	450		85	25
218-01-9	Chrysene	860		85	42
53-70-3	Dibenz(a,h)anthracene	110		85	42
206-44-0	Fluoranthene	1300	✓	85	42
86-73-7	Fluorene	85	U J	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	340	J	85	42
90-12-0	1-Methylnaphthalene	87	J	85	39
91-57-6	2-Methylnaphthalene	96	J	85	42
91-20-3	Naphthalene	82	J	85	42
85-01-8	Phenanthrene	590	J	85	31
129-00-0	Pyrene	1000	J	85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350B-CS4"</u>	Lab Sample ID: <u>680-104534-15</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2628.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.04(g)</u>	Date Analyzed: <u>08/27/2014 00:35</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>10.8</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	100	J	75	37
208-96-8	Acenaphthylene	75	UJ	75	37
120-12-7	Anthracene	200	J	75	37
56-55-3	Benzo[a]anthracene	890	↓	75	37
50-32-8	Benzo[a]pyrene	900		75	13
205-99-2	Benzo[b]fluoranthene	1500		75	37
191-24-2	Benzo[g,h,i]perylene	410		75	37
207-08-9	Benzo[k]fluoranthene	510		75	22
218-01-9	Chrysene	1100		75	37
53-70-3	Dibenz(a,h)anthracene	120		75	37
206-44-0	Fluoranthene	1700		75	37
86-73-7	Fluorene	76		75	37
193-39-5	Indeno[1,2,3-cd]pyrene	430		75	37
90-12-0	1-Methylnaphthalene	120		75	35
91-57-6	2-Methylnaphthalene	150		75	37
91-20-3	Naphthalene	120		75	37
85-01-8	Phenanthrene	1100		75	27
129-00-0	Pyrene	1400		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350C-CS4"</u>	Lab Sample ID: <u>680-104534-16</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2629.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 15:00</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/27/2014 00:58</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>20.8</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	U J	85	42
208-96-8	Acenaphthylene	85	U J	85	42
120-12-7	Anthracene	85	U J	85	42
56-55-3	Benzo[a]anthracene	140	J	85	42
50-32-8	Benzo[a]pyrene	160	J	85	15
205-99-2	Benzo[b]fluoranthene	310	J	85	42
191-24-2	Benzo[g,h,i]perylene	84	J	85	42
207-08-9	Benzo[k]fluoranthene	91	J	85	25
218-01-9	Chrysene	200	J	85	42
53-70-3	Dibenz(a,h)anthracene	85	U J	85	42
206-44-0	Fluoranthene	300	J	85	42
86-73-7	Fluorene	85	U J	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	51	J	85	42
90-12-0	1-Methylnaphthalene	85	U J	85	39
91-57-6	2-Methylnaphthalene	85	U J	85	42
91-20-3	Naphthalene	85	U J	85	42
85-01-8	Phenanthrene	160	J	85	30
129-00-0	Pyrene	240	J	85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: FM0350D-CS4" Lab Sample ID: 680-104534-17
 Matrix: Solid Lab File ID: 1KH2630.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 15:30
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.02(g) Date Analyzed: 08/27/2014 01:21
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 21.7 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 345964 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	86	UJ	86	42
208-96-8	Acenaphthylene	86	UJ	86	42
120-12-7	Anthracene	91	J	86	42
56-55-3	Benzo[a]anthracene	540		86	42
50-32-8	Benzo[a]pyrene	520		86	15
205-99-2	Benzo[b]fluoranthene	910		86	42
191-24-2	Benzo[g,h,i]perylene	210		86	42
207-08-9	Benzo[k]fluoranthene	290		86	26
218-01-9	Chrysene	630	↓	86	42
53-70-3	Dibenz(a,h)anthracene	62	J	86	42
206-44-0	Fluoranthene	1200	J	86	42
86-73-7	Fluorene	86	UJ	86	42
193-39-5	Indeno[1,2,3-cd]pyrene	210	J	86	42
90-12-0	1-Methylnaphthalene	91	↓	86	40
91-57-6	2-Methylnaphthalene	99	↓	86	42
91-20-3	Naphthalene	73	J	86	42
85-01-8	Phenanthrene	640	J	86	31
129-00-0	Pyrene	850	J	86	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

FORM I 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Client Sample ID: FM0350A-CSD4" Lab Sample ID: 680-104534-18
 Matrix: Solid Lab File ID: 1YH2917.D
 Analysis Method: 8270D_LL_PAH Date Collected: 08/19/2014 14:50
 Extract. Method: 3546 Date Extracted: 08/22/2014 22:13
 Sample wt/vol: 30.02(g) Date Analyzed: 08/29/2014 16:07
 Con. Extract Vol.: 1(mL) Dilution Factor: 10
 Injection Volume: 2(uL) Level: (low/med) Low
 % Moisture: 21.1 GPC Cleanup: (Y/N) N
 Analysis Batch No.: 346540 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	UJ	85	42
208-96-8	Acenaphthylene	85	UJ	85	42
120-12-7	Anthracene	74	J	85	42
56-55-3	Benzo[a]anthracene	600	J	85	42
50-32-8	Benzo[a]pyrene	580	J	85	15
205-99-2	Benzo[b]fluoranthene	920	J	85	42
191-24-2	Benzo[g,h,i]perylene	420	J	85	42
207-08-9	Benzo[k]fluoranthene	400	J	85	25
218-01-9	Chrysene	700	J	85	42
53-70-3	Dibenz(a,h)anthracene	160	J	85	42
206-44-0	Fluoranthene	1100	J	85	42
86-73-7	Fluorene	85	UJ	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	330	J	85	42
90-12-0	1-Methylnaphthalene	71	J	85	39
91-57-6	2-Methylnaphthalene	79	J	85	42
91-20-3	Naphthalene	62	J	85	42
85-01-8	Phenanthrene	440	J	85	30
129-00-0	Pyrene	820	J	85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

Sample results have been qualified by URS in accordance with the Non-Industrial Use Property Sampling Event QAPP
 FORM I 8270D_LL_PAH for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1 (OTIE, October 2012)

ANALYTICAL REPORT

Job Number: 680-104534-1

SDG Number: 680-104534-01

Job Description: 35th Avenue Superfund Site

For:

Oneida Total Integrated Enterprises LLC

1220 Kennestone Circle

Suite 106

Marietta, GA 30060

Attention: Ms. Limari F Krebs



Approved for release.
Lisa M Harvey
Project Manager II
9/8/2014 3:56 PM

Lisa M Harvey, Project Manager II
5102 LaRoche Avenue, Savannah, GA, 31404
(912)354-7858 e.3221
lisa.harvey@testamericainc.com
09/08/2014

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; AZ: AZ0741; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN: C-GA-02; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

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CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-104534-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 8/22/2014 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 13.2° C and 14.0° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix : CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), FM0350A-CS4" (680-104534-14), FM0350A-CSD4" (680-104534-18), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085B-CS6" (680-104534-10), HP0085A-CSD12" (680-104534-7), FM0350A-CSD4" (680-104534-18). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS12" (680-104534-6), HP0085A-CS6" (680-104534-5), HP0085A-CSD12" (680-104534-7), HP0085B-CS12" (680-104534-11), HP0085B-CS6" (680-104534-10), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS18" (680-104534-12).

Samples CV0004A-CS4" (680-104534-1)[10X], CV0004B-CS4" (680-104534-2)[10X], CV0163A-CS4" (680-104534-3)[10X], CV0163A-CS4" (680-104534-4)[10X], HP0085A-CS6" (680-104534-5)[10X], HP0085A-CSD12" (680-104534-7)[10X], HP0085B-CS6" (680-104534-10)[10X], FM0350A-CS4" (680-104534-14)[10X], FM0350B-CS4" (680-104534-15)[10X], FM0350C-CS4" (680-104534-16)[10X], FM0350D-CS4" (680-104534-17)[10X] and FM0350A-CSD4" (680-104534-18)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

METALS (ICPMS)

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A.

Method(s) 6020A: The method blank for batch 680-345543 contained iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Iron was detected in method blank MB 680-345543/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Lead recovery is outside criteria low for the MS and MSD of sample CV0004A-CS4" (680-104534-1) in batch 680-345970. Aluminum and Iron recoveries are outside criteria high. Also, Iron exceeded the RPD limit.

Refer to the QC report for details.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples HP0085A-CS6" (680-104534-5)[4X], HP0085A-CS12" (680-104534-6)[4X], HP0085A-CSD12" (680-104534-7)[4X], HP0085A-CS18" (680-104534-8)[4X], HP0085A-CS24" (680-104534-9)[4X], HP0085B-CS6" (680-104534-10)[4X], HP0085B-CS12" (680-104534-11)[4X], HP0085B-CS18" (680-104534-12)[10X] and HP0085B-CS24" (680-104534-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

PERCENT SOLIDS/MOISTURE

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163A-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-104534-1	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MS	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-1MSD	CV0004A-CS4"	Solid	08/18/2014 1515	08/22/2014 0926
680-104534-2	CV0004B-CS4"	Solid	08/18/2014 1545	08/22/2014 0926
680-104534-3	CV0163A-CS4"	Solid	08/18/2014 1620	08/22/2014 0926
680-104534-4	CV0163A-CS4"	Solid	08/18/2014 1640	08/22/2014 0926
680-104534-5	HP0085A-CS6"	Solid	08/19/2014 0910	08/22/2014 0926
680-104534-6	HP0085A-CS12"	Solid	08/19/2014 0920	08/22/2014 0926
680-104534-7	HP0085A-CSD12"	Solid	08/19/2014 0925	08/22/2014 0926
680-104534-8	HP0085A-CS18"	Solid	08/19/2014 0930	08/22/2014 0926
680-104534-9	HP0085A-CS24"	Solid	08/19/2014 0940	08/22/2014 0926
680-104534-10	HP0085B-CS6"	Solid	08/19/2014 1140	08/22/2014 0926
680-104534-11	HP0085B-CS12"	Solid	08/19/2014 1145	08/22/2014 0926
680-104534-12	HP0085B-CS18"	Solid	08/19/2014 1200	08/22/2014 0926
680-104534-13	HP0085B-CS24"	Solid	08/19/2014 1215	08/22/2014 0926
680-104534-14	FM0350A-CS4"	Solid	08/19/2014 1445	08/22/2014 0926
680-104534-15	FM0350B-CS4"	Solid	08/19/2014 1515	08/22/2014 0926
680-104534-16	FM0350C-CS4"	Solid	08/19/2014 1500	08/22/2014 0926
680-104534-17	FM0350D-CS4"	Solid	08/19/2014 1530	08/22/2014 0926
680-104534-18	FM0350A-CSD4"	Solid	08/19/2014 1450	08/22/2014 0926

METHOD SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds (GC/MS) Low level PAH	TAL SAV	SW846 8270D_LL_PAH	
Microwave Extraction	TAL SAV		SW846 3546
Metals (ICP/MS)	TAL SAV	SW846 6020A	
Preparation, Metals	TAL SAV		SW846 3050B
Percent Moisture	TAL SAV	EPA Moisture	

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Method	Analyst	Analyst ID
SW846 8270D_LL_PAH	Davis, Nancy E	NED
SW846 8270D_LL_PAH	Moore, Ron A	RAM
SW846 6020A	Robertson, Bryn W	BWR
EPA Moisture	Longworth, Hazel M	HML

DATA REPORTING QUALIFIERS

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
Metals		
	B	Compound was found in the blank and sample.
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
	U	Indicates the analyte was analyzed for but not detected.
	4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
	F2	MS/MSD RPD exceeds control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Quality Control Results

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 680-345506					
LCS 680-345506/22-A	Lab Control Sample	T	Solid	3546	
MB 680-345506/21-A	Method Blank	T	Solid	3546	
680-104534-1	CV0004A-CS4"	T	Solid	3546	
680-104534-1MS	Matrix Spike	T	Solid	3546	
680-104534-1MSD	Matrix Spike Duplicate	T	Solid	3546	
680-104534-2	CV0004B-CS4"	T	Solid	3546	
680-104534-3	CV0163A-CS4"	T	Solid	3546	
680-104534-4	CV0163A-CS4"	T	Solid	3546	
680-104534-5	HP0085A-CS6"	T	Solid	3546	
680-104534-6	HP0085A-CS12"	T	Solid	3546	
680-104534-7	HP0085A-CSD12"	T	Solid	3546	
680-104534-8	HP0085A-CS18"	T	Solid	3546	
680-104534-9	HP0085A-CS24"	T	Solid	3546	
680-104534-10	HP0085B-CS6"	T	Solid	3546	
680-104534-11	HP0085B-CS12"	T	Solid	3546	
680-104534-12	HP0085B-CS18"	T	Solid	3546	
680-104534-13	HP0085B-CS24"	T	Solid	3546	
680-104534-14	FM0350A-CS4"	T	Solid	3546	
680-104534-15	FM0350B-CS4"	T	Solid	3546	
680-104534-16	FM0350C-CS4"	T	Solid	3546	
680-104534-17	FM0350D-CS4"	T	Solid	3546	
680-104534-18	FM0350A-CSD4"	T	Solid	3546	
Analysis Batch:680-345693					
LCS 680-345506/22-A	Lab Control Sample	T	Solid	8270D_LL_PAH	680-345506
MB 680-345506/21-A	Method Blank	T	Solid	8270D_LL_PAH	680-345506
680-104534-1	CV0004A-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-1MS	Matrix Spike	T	Solid	8270D_LL_PAH	680-345506
680-104534-1MSD	Matrix Spike Duplicate	T	Solid	8270D_LL_PAH	680-345506
680-104534-2	CV0004B-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-3	CV0163A-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-4	CV0163A-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-5	HP0085A-CS6"	T	Solid	8270D_LL_PAH	680-345506
680-104534-7	HP0085A-CSD12"	T	Solid	8270D_LL_PAH	680-345506
680-104534-10	HP0085B-CS6"	T	Solid	8270D_LL_PAH	680-345506
680-104534-11	HP0085B-CS12"	T	Solid	8270D_LL_PAH	680-345506
Analysis Batch:680-345964					
680-104534-8	HP0085A-CS18"	T	Solid	8270D_LL_PAH	680-345506
680-104534-9	HP0085A-CS24"	T	Solid	8270D_LL_PAH	680-345506
680-104534-12	HP0085B-CS18"	T	Solid	8270D_LL_PAH	680-345506
680-104534-14	FM0350A-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-15	FM0350B-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-16	FM0350C-CS4"	T	Solid	8270D_LL_PAH	680-345506
680-104534-17	FM0350D-CS4"	T	Solid	8270D_LL_PAH	680-345506

TestAmerica Savannah

Quality Control Results

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Analysis Batch:680-346540					
680-104534-6	HP0085A-CS12"	T	Solid	8270D_LL_PAH	680-345506
680-104534-13	HP0085B-CS24"	T	Solid	8270D_LL_PAH	680-345506
680-104534-18	FM0350A-CSD4"	T	Solid	8270D_LL_PAH	680-345506

Report Basis

T = Total

Quality Control Results

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 680-345543					
LCS 680-345543/2-A	Lab Control Sample	T	Solid	3050B	
MB 680-345543/1-A	Method Blank	T	Solid	3050B	
680-104534-1	CV0004A-CS4"	T	Solid	3050B	
680-104534-1MS	Matrix Spike	T	Solid	3050B	
680-104534-1MSD	Matrix Spike Duplicate	T	Solid	3050B	
680-104534-2	CV0004B-CS4"	T	Solid	3050B	
680-104534-3	CV0163A-CS4"	T	Solid	3050B	
680-104534-4	CV0163A-CS4"	T	Solid	3050B	
680-104534-5	HP0085A-CS6"	T	Solid	3050B	
680-104534-6	HP0085A-CS12"	T	Solid	3050B	
680-104534-7	HP0085A-CSD12"	T	Solid	3050B	
680-104534-8	HP0085A-CS18"	T	Solid	3050B	
680-104534-9	HP0085A-CS24"	T	Solid	3050B	
680-104534-10	HP0085B-CS6"	T	Solid	3050B	
680-104534-11	HP0085B-CS12"	T	Solid	3050B	
680-104534-12	HP0085B-CS18"	T	Solid	3050B	
680-104534-13	HP0085B-CS24"	T	Solid	3050B	
680-104534-14	FM0350A-CS4"	T	Solid	3050B	
680-104534-15	FM0350B-CS4"	T	Solid	3050B	
680-104534-16	FM0350C-CS4"	T	Solid	3050B	
680-104534-17	FM0350D-CS4"	T	Solid	3050B	
680-104534-18	FM0350A-CSD4"	T	Solid	3050B	

Quality Control Results

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:680-345970					
LCS 680-345543/2-A	Lab Control Sample	T	Solid	6020A	680-345543
MB 680-345543/1-A	Method Blank	T	Solid	6020A	680-345543
680-104534-1	CV0004A-CS4"	T	Solid	6020A	680-345543
680-104534-1MS	Matrix Spike	T	Solid	6020A	680-345543
680-104534-1MSD	Matrix Spike Duplicate	T	Solid	6020A	680-345543
680-104534-2	CV0004B-CS4"	T	Solid	6020A	680-345543
680-104534-3	CV0163A-CS4"	T	Solid	6020A	680-345543
680-104534-4	CV0163A-CS4"	T	Solid	6020A	680-345543
680-104534-5	HP0085A-CS6"	T	Solid	6020A	680-345543
680-104534-6	HP0085A-CS12"	T	Solid	6020A	680-345543
680-104534-7	HP0085A-CSD12"	T	Solid	6020A	680-345543
680-104534-8	HP0085A-CS18"	T	Solid	6020A	680-345543
680-104534-9	HP0085A-CS24"	T	Solid	6020A	680-345543
680-104534-10	HP0085B-CS6"	T	Solid	6020A	680-345543
680-104534-11	HP0085B-CS12"	T	Solid	6020A	680-345543
680-104534-12	HP0085B-CS18"	T	Solid	6020A	680-345543
680-104534-13	HP0085B-CS24"	T	Solid	6020A	680-345543
680-104534-14	FM0350A-CS4"	T	Solid	6020A	680-345543
680-104534-15	FM0350B-CS4"	T	Solid	6020A	680-345543
680-104534-16	FM0350C-CS4"	T	Solid	6020A	680-345543
680-104534-17	FM0350D-CS4"	T	Solid	6020A	680-345543
680-104534-18	FM0350A-CSD4"	T	Solid	6020A	680-345543
Analysis Batch:680-346224					
680-104534-5	HP0085A-CS6"	T	Solid	6020A	680-345543
680-104534-6	HP0085A-CS12"	T	Solid	6020A	680-345543
680-104534-7	HP0085A-CSD12"	T	Solid	6020A	680-345543
680-104534-8	HP0085A-CS18"	T	Solid	6020A	680-345543
680-104534-9	HP0085A-CS24"	T	Solid	6020A	680-345543
680-104534-10	HP0085B-CS6"	T	Solid	6020A	680-345543
680-104534-11	HP0085B-CS12"	T	Solid	6020A	680-345543
680-104534-12	HP0085B-CS18"	T	Solid	6020A	680-345543
680-104534-13	HP0085B-CS24"	T	Solid	6020A	680-345543

Report Basis

T = Total

Quality Control Results

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

Sdg Number: 680-104534-01

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:680-345456					
680-104534-1	CV0004A-CS4"	T	Solid	Moisture	
680-104534-1MS	Matrix Spike	T	Solid	Moisture	
680-104534-1MSD	Matrix Spike Duplicate	T	Solid	Moisture	
680-104534-2	CV0004B-CS4"	T	Solid	Moisture	
680-104534-3	CV0163A-CS4"	T	Solid	Moisture	
680-104534-4	CV0163A-CS4"	T	Solid	Moisture	
680-104534-5	HP0085A-CS6"	T	Solid	Moisture	
680-104534-6	HP0085A-CS12"	T	Solid	Moisture	
680-104534-7	HP0085A-CSD12"	T	Solid	Moisture	
680-104534-8	HP0085A-CS18"	T	Solid	Moisture	
680-104534-9	HP0085A-CS24"	T	Solid	Moisture	
680-104534-10	HP0085B-CS6"	T	Solid	Moisture	
680-104534-11	HP0085B-CS12"	T	Solid	Moisture	
680-104534-12	HP0085B-CS18"	T	Solid	Moisture	
680-104534-13	HP0085B-CS24"	T	Solid	Moisture	
680-104534-14	FM0350A-CS4"	T	Solid	Moisture	
680-104534-15	FM0350B-CS4"	T	Solid	Moisture	
680-104534-16	FM0350C-CS4"	T	Solid	Moisture	
680-104534-17	FM0350D-CS4"	T	Solid	Moisture	
680-104534-18	FM0350A-CSD4"	T	Solid	Moisture	

Report Basis

T = Total

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSK Analysis Batch Number: 345964Lab Sample ID: 680-104534-8 Client Sample ID: HP0085A-CS18"Date Analyzed: 08/26/14 23:03 Lab File ID: 1KH2624.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.29	Split Peak	webbk	08/27/14 08:31

Lab Sample ID: 680-104534-9 Client Sample ID: HP0085A-CS24"Date Analyzed: 08/26/14 23:26 Lab File ID: 1KH2625.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.28	Split Peak	webbk	08/27/14 11:21

Lab Sample ID: 680-104534-12 Client Sample ID: HP0085B-CS18"Date Analyzed: 08/26/14 23:49 Lab File ID: 1KH2626.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.26	Split Peak	webbk	08/27/14 11:36
Benzo[k]fluoranthene	11.28	Split Peak	webbk	08/27/14 11:36

Lab Sample ID: 680-104534-14 Client Sample ID: FM0350A-CS4"Date Analyzed: 08/27/14 00:12 Lab File ID: 1KH2627.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.28	Split Peak	webbk	08/27/14 11:40

Lab Sample ID: 680-104534-15 Client Sample ID: FM0350B-CS4"Date Analyzed: 08/27/14 00:35 Lab File ID: 1KH2628.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.29	Split Peak	webbk	08/27/14 11:43

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSK Analysis Batch Number: 345964Lab Sample ID: 680-104534-16 Client Sample ID: FM0350C-CS4"Date Analyzed: 08/27/14 00:58 Lab File ID: 1KH2629.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.29	Split Peak	webbk	08/27/14 12:22

Lab Sample ID: 680-104534-17 Client Sample ID: FM0350D-CS4"Date Analyzed: 08/27/14 01:21 Lab File ID: 1KH2630.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.30	Split Peak	webbk	08/27/14 12:24

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSY Analysis Batch Number: 345693Lab Sample ID: 680-104534-1 MS Client Sample ID: CV0004A-CS4" MSDate Analyzed: 08/25/14 14:05 Lab File ID: 1YH2507.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.80	Split Peak	webbk	08/25/14 14:41

Lab Sample ID: 680-104534-1 MSD Client Sample ID: CV0004A-CS4" MSDDate Analyzed: 08/25/14 14:27 Lab File ID: 1YH2508.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[k]fluoranthene	11.80	Split Peak	webbk	08/25/14 16:31

Lab Sample ID: 680-104534-1 Client Sample ID: CV0004A-CS4"Date Analyzed: 08/25/14 14:49 Lab File ID: 1YH2509.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/25/14 16:35
Benzo[k]fluoranthene	11.79	Split Peak	webbk	08/25/14 16:35

Lab Sample ID: 680-104534-2 Client Sample ID: CV0004B-CS4"Date Analyzed: 08/25/14 15:12 Lab File ID: 1YH2510.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 08:41
Benzo[k]fluoranthene	11.79	Split Peak	webbk	08/26/14 08:41

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSY Analysis Batch Number: 345693Lab Sample ID: 680-104534-3 Client Sample ID: CV0163A-CS4"Date Analyzed: 08/25/14 15:34 Lab File ID: 1YH2511.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 08:44
Benzo[k]fluoranthene	11.79	Split Peak	webbk	08/26/14 08:44

Lab Sample ID: 680-104534-4 Client Sample ID: CV0163A-CS4"Date Analyzed: 08/25/14 15:56 Lab File ID: 1YH2512.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 08:47
Benzo[k]fluoranthene	11.80	Split Peak	webbk	08/26/14 08:47

Lab Sample ID: 680-104534-5 Client Sample ID: HP0085A-CS6"Date Analyzed: 08/25/14 16:19 Lab File ID: 1YH2513.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 08:50
Benzo[k]fluoranthene	11.80	Split Peak	webbk	08/26/14 08:50

Lab Sample ID: 680-104534-7 Client Sample ID: HP0085A-CSD12"Date Analyzed: 08/25/14 17:04 Lab File ID: 1YH2515.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 09:44
Benzo[k]fluoranthene	11.79	Split Peak	webbk	08/26/14 09:44

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSY Analysis Batch Number: 345693Lab Sample ID: 680-104534-10 Client Sample ID: HP0085B-CS6"Date Analyzed: 08/25/14 18:11 Lab File ID: 1YH2518.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 10:00
Benzo[k]fluoranthene	11.81	Split Peak	webbk	08/26/14 10:00

Lab Sample ID: 680-104534-11 Client Sample ID: HP0085B-CS12"Date Analyzed: 08/25/14 18:34 Lab File ID: 1YH2519.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.78	Split Peak	webbk	08/26/14 10:04
Benzo[k]fluoranthene	11.80	Split Peak	webbk	08/26/14 10:04

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSY Analysis Batch Number: 346540Lab Sample ID: 680-104534-18 Client Sample ID: FM0350A-CSD4"Date Analyzed: 08/29/14 16:07 Lab File ID: 1YH2917.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.73	Split Peak	webbk	09/02/14 10:47
Benzo[k]fluoranthene	11.75	Split Peak	webbk	09/02/14 10:47

Lab Sample ID: 680-104534-6 Client Sample ID: HP0085A-CS12"Date Analyzed: 08/29/14 16:30 Lab File ID: 1YH2918.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.73	Split Peak	webbk	09/02/14 10:50
Benzo[k]fluoranthene	11.75	Split Peak	webbk	09/02/14 10:50

Lab Sample ID: 680-104534-13 Client Sample ID: HP0085B-CS24"Date Analyzed: 08/29/14 16:53 Lab File ID: 1YH2919.D GC Column: RXi- 5Sil MS ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	11.73	Split Peak	webbk	09/02/14 10:52
Benzo[k]fluoranthene	11.74	Split Peak	webbk	09/02/14 10:52

Method 8270D Low Level

Semivolatile Organic Compounds
(GC/MS) Low Level by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Matrix: Solid

Level: Low

GC Column (1): RXi- 5Sil MS ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	OTPH	#
CV0004A-CS4"	680-104534-1	0	D
CV0004B-CS4"	680-104534-2	0	D
CV0163A-CS4"	680-104534-3	0	D
CV0163A-CS4"	680-104534-4	0	D
HP0085A-CS6"	680-104534-5	0	D
HP0085A-CS12"	680-104534-6	105	
HP0085A-CSD12"	680-104534-7	0	D
HP0085A-CS18"	680-104534-8	97	
HP0085A-CS24"	680-104534-9	108	
HP0085B-CS6"	680-104534-10	0	D
HP0085B-CS12"	680-104534-11	99	
HP0085B-CS18"	680-104534-12	97	
HP0085B-CS24"	680-104534-13	95	
FM0350A-CS4"	680-104534-14	0	D
FM0350B-CS4"	680-104534-15	0	D
FM0350C-CS4"	680-104534-16	0	D
FM0350D-CS4"	680-104534-17	0	D
FM0350A-CSD4"	680-104534-18	0	D
	MB 680-345506/21-A	126	
	LCS 680-345506/22-A	116	
CV0004A-CS4" MS	680-104534-1 MS	0	D
CV0004A-CS4" MSD	680-104534-1 MSD	0	D

OTPH = o-Terphenyl

QC LIMITS
36-131

Column to be used to flag recovery values

FORM II 8270D_LL_PAH

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Matrix: Solid Level: Low Lab File ID: 1YH2506.D
 Lab ID: LCS 680-345506/22-A Client ID: _____

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Acenaphthene	333	301	90	33-130	
Acenaphthylene	333	286	86	37-131	
Anthracene	333	310	93	42-146	
Benzo[a]anthracene	333	335	101	39-157	
Benzo[a]pyrene	333	344	103	41-158	
Benzo[b]fluoranthene	333	354	106	35-152	
Benzo[g,h,i]perylene	333	341	102	32-150	
Benzo[k]fluoranthene	333	307	92	38-148	
Chrysene	333	288	86	38-147	
Dibenz(a,h)anthracene	333	330	99	32-155	
Fluoranthene	333	321	96	36-147	
Fluorene	333	290	87	36-138	
Indeno[1,2,3-cd]pyrene	333	328	98	35-148	
1-Methylnaphthalene	333	278	84	36-130	
2-Methylnaphthalene	333	286	86	42-130	
Naphthalene	333	281	84	33-130	
Phenanthrene	333	321	96	40-135	
Pyrene	333	305	92	38-145	

Column to be used to flag recovery and RPD values

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Matrix: Solid Level: Low Lab File ID: 1YH2507.D
 Lab ID: 680-104534-1 MS Client ID: CV0004A-CS4" MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Acenaphthene	413	83 U	345	84	33-130	
Acenaphthylene	413	83 U	340	82	37-131	
Anthracene	413	64 J	372	75	42-146	
Benzo[a]anthracene	413	410	715	74	39-157	
Benzo[a]pyrene	413	390	676	69	41-158	
Benzo[b]fluoranthene	413	660	859	48	35-152	
Benzo[g,h,i]perylene	413	330	658	80	32-150	
Benzo[k]fluoranthene	413	260	501	58	38-148	
Chrysene	413	470	711	59	38-147	
Dibenz(a,h)anthracene	413	97	482	93	32-155	
Fluoranthene	413	730	1020	69	36-147	
Fluorene	413	83 U	343	83	36-138	
Indeno[1,2,3-cd]pyrene	413	250	632	92	35-148	
1-Methylnaphthalene	413	77 J	379	73	36-130	
2-Methylnaphthalene	413	77 J	380	73	42-130	
Naphthalene	413	54 J	355	73	33-130	
Phenanthrene	413	400	709	75	40-135	
Pyrene	413	640	813	41	38-145	

Column to be used to flag recovery and RPD values

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Matrix: Solid Level: Low Lab File ID: 1YH2508.D
 Lab ID: 680-104534-1 MSD Client ID: CV0004A-CS4" MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Acenaphthene	413	376	91	8	50	33-130	
Acenaphthylene	413	367	89	8	50	37-131	
Anthracene	413	416	85	11	50	42-146	
Benzo[a]anthracene	413	841	105	16	50	39-157	
Benzo[a]pyrene	413	793	97	16	50	41-158	
Benzo[b]fluoranthene	413	1060	96	21	50	35-152	
Benzo[g,h,i]perylene	413	676	84	3	50	32-150	
Benzo[k]fluoranthene	413	698	105	33	50	38-148	
Chrysene	413	809	83	13	50	38-147	
Dibenz(a,h)anthracene	413	477	92	1	50	32-155	
Fluoranthene	413	1210	115	17	50	36-147	
Fluorene	413	357	86	4	50	36-138	
Indeno[1,2,3-cd]pyrene	413	598	84	5	50	35-148	
1-Methylnaphthalene	413	405	79	7	50	36-130	
2-Methylnaphthalene	413	401	79	5	50	42-130	
Naphthalene	413	375	78	5	50	33-130	
Phenanthrene	413	829	104	16	50	40-135	
Pyrene	413	1050	98	25	50	38-145	

Column to be used to flag recovery and RPD values

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Lab File ID: <u>1YH2505.D</u>	Lab Sample ID: <u>MB 680-345506/21-A</u>
Matrix: <u>Solid</u>	Date Extracted: <u>08/22/2014 22:13</u>
Instrument ID: <u>CMSY</u>	Date Analyzed: <u>08/25/2014 13:20</u>
Level: (Low/Med) <u>Low</u>	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 680-345506/22-A	1YH2506.D	08/25/2014 13:42
CV0004A-CS4" MS	680-104534-1 MS	1YH2507.D	08/25/2014 14:05
CV0004A-CS4" MSD	680-104534-1 MSD	1YH2508.D	08/25/2014 14:27
CV0004A-CS4"	680-104534-1	1YH2509.D	08/25/2014 14:49
CV0004B-CS4"	680-104534-2	1YH2510.D	08/25/2014 15:12
CV0163A-CS4"	680-104534-3	1YH2511.D	08/25/2014 15:34
CV0163A-CS4"	680-104534-4	1YH2512.D	08/25/2014 15:56
HP0085A-CS6"	680-104534-5	1YH2513.D	08/25/2014 16:19
HP0085A-CSD12"	680-104534-7	1YH2515.D	08/25/2014 17:04
HP0085B-CS6"	680-104534-10	1YH2518.D	08/25/2014 18:11
HP0085B-CS12"	680-104534-11	1YH2519.D	08/25/2014 18:34
HP0085A-CS18"	680-104534-8	1KH2624.D	08/26/2014 23:03
HP0085A-CS24"	680-104534-9	1KH2625.D	08/26/2014 23:26
HP0085B-CS18"	680-104534-12	1KH2626.D	08/26/2014 23:49
FM0350A-CS4"	680-104534-14	1KH2627.D	08/27/2014 00:12
FM0350B-CS4"	680-104534-15	1KH2628.D	08/27/2014 00:35
FM0350C-CS4"	680-104534-16	1KH2629.D	08/27/2014 00:58
FM0350D-CS4"	680-104534-17	1KH2630.D	08/27/2014 01:21
FM0350A-CSD4"	680-104534-18	1YH2917.D	08/29/2014 16:07
HP0085A-CS12"	680-104534-6	1YH2918.D	08/29/2014 16:30
HP0085B-CS24"	680-104534-13	1YH2919.D	08/29/2014 16:53

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab File ID: 1KH2211.D DFTPP Injection Date: 08/22/2014
Instrument ID: CMSK DFTPP Injection Time: 11:38
Analysis Batch No.: 345423

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0 % of mass 442	13.0
68	Less than 2.0 % of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	13.5
70	Less than 2.0 % of mass 69	0.1 (0.6)1
127	10.0 - 80.0 % of mass 442	29.7
197	Less than 2.0 % of mass 198	0.0 (0.0)2
198	Greater than 50.0 % of mass 442	67.6
199	5.0 - 9.0 % of mass 198	4.5 (6.6)2
275	10.0 - 60.0 % of mass 442	16.5
365	Greater than 1.0 % of mass 442	2.4
441	Present but less than mass 443	15.3
442	Base Peak, 100% relative abundance	100.0
443	15.0 - 24.0 % of mass 442	19.8

1-Value is % mass 69

2-Value is % mass 198

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 680-345423/2	1KH2202.D	08/22/2014	11:57
	IC 680-345423/3	1KH2203.D	08/22/2014	12:20
	IC 680-345423/4	1KH2204.D	08/22/2014	12:43
	IC 680-345423/5	1KH2205.D	08/22/2014	13:06
	IC 680-345423/6	1KH2206.D	08/22/2014	13:30
	IC 680-345423/7	1KH2207.D	08/22/2014	13:53
	IC 680-345423/8	1KH2208.D	08/22/2014	14:16
	ICV 680-345423/9	1KH2209.D	08/22/2014	14:40

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab File ID: 1KH2601.D DFTPP Injection Date: 08/26/2014
Instrument ID: CMSK DFTPP Injection Time: 13:44
Analysis Batch No.: 345964

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0 % of mass 442	22.4
68	Less than 2.0 % of mass 69	0.1 (0.3)1
69	Mass 69 relative abundance	21.4
70	Less than 2.0 % of mass 69	0.1 (0.5)1
127	10.0 - 80.0 % of mass 442	42.0
197	Less than 2.0 % of mass 198	0.0 (0.0)2
198	Greater than 50.0 % of mass 442	88.9
199	5.0 - 9.0 % of mass 198	6.1 (6.8)2
275	10.0 - 60.0 % of mass 442	21.1
365	Greater than 1.0 % of mass 442	2.7
441	Present but less than mass 443	16.6
442	Base Peak, 100% relative abundance	100.0
443	15.0 - 24.0 % of mass 442	20.9

1-Value is % mass 69

2-Value is % mass 198

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 680-345964/2	1KH2602.D	08/26/2014	13:59
HP0085A-CS18"	680-104534-8	1KH2624.D	08/26/2014	23:03
HP0085A-CS24"	680-104534-9	1KH2625.D	08/26/2014	23:26
HP0085B-CS18"	680-104534-12	1KH2626.D	08/26/2014	23:49
FM0350A-CS4"	680-104534-14	1KH2627.D	08/27/2014	00:12
FM0350B-CS4"	680-104534-15	1KH2628.D	08/27/2014	00:35
FM0350C-CS4"	680-104534-16	1KH2629.D	08/27/2014	00:58
FM0350D-CS4"	680-104534-17	1KH2630.D	08/27/2014	01:21

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab File ID: 1YH2501.D DFTPP Injection Date: 08/25/2014
Instrument ID: CMSY DFTPP Injection Time: 11:07
Analysis Batch No.: 345693

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0 % of mass 442	23.6
68	Less than 2.0 % of mass 69	0.5 (1.6) 1
69	Mass 69 relative abundance	29.1
70	Less than 2.0 % of mass 69	0.1 (0.5) 1
127	10.0 - 80.0 % of mass 442	43.0
197	Less than 2.0 % of mass 198	0.4 (0.5) 2
198	Greater than 50.0 % of mass 442	80.0
199	5.0 - 9.0 % of mass 198	5.3 (6.6) 2
275	10.0 - 60.0 % of mass 442	21.3
365	Greater than 1.0 % of mass 442	3.3
441	Present but less than mass 443	14.7
442	Base Peak, 100% relative abundance	100.0
443	15.0 - 24.0 % of mass 442	19.1

1-Value is % mass 69

2-Value is % mass 198

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 680-345693/2	1YH2502.D	08/25/2014	11:27
	MB 680-345506/21-A	1YH2505.D	08/25/2014	13:20
	LCS 680-345506/22-A	1YH2506.D	08/25/2014	13:42
CV0004A-CS4" MS	680-104534-1 MS	1YH2507.D	08/25/2014	14:05
CV0004A-CS4" MSD	680-104534-1 MSD	1YH2508.D	08/25/2014	14:27
CV0004A-CS4"	680-104534-1	1YH2509.D	08/25/2014	14:49
CV0004B-CS4"	680-104534-2	1YH2510.D	08/25/2014	15:12
CV0163A-CS4"	680-104534-3	1YH2511.D	08/25/2014	15:34
CV0163A-CS4"	680-104534-4	1YH2512.D	08/25/2014	15:56
HP0085A-CS6"	680-104534-5	1YH2513.D	08/25/2014	16:19
HP0085A-CSD12"	680-104534-7	1YH2515.D	08/25/2014	17:04
HP0085B-CS6"	680-104534-10	1YH2518.D	08/25/2014	18:11
HP0085B-CS12"	680-104534-11	1YH2519.D	08/25/2014	18:34

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab File ID: 1YH2902.D DFTPP Injection Date: 08/29/2014
Instrument ID: CMSY DFTPP Injection Time: 09:21
Analysis Batch No.: 346540

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0 % of mass 442	25.2
68	Less than 2.0 % of mass 69	0.5 (1.7)1
69	Mass 69 relative abundance	26.8
70	Less than 2.0 % of mass 69	0.1 (0.4)1
127	10.0 - 80.0 % of mass 442	38.6
197	Less than 2.0 % of mass 198	0.0 (0.0)2
198	Greater than 50.0 % of mass 442	73.7
199	5.0 - 9.0 % of mass 198	4.9 (6.7)2
275	10.0 - 60.0 % of mass 442	21.4
365	Greater than 1.0 % of mass 442	3.7
441	Present but less than mass 443	14.9
442	Base Peak, 100% relative abundance	100.0
443	15.0 - 24.0 % of mass 442	19.5

1-Value is % mass 69

2-Value is % mass 198

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 680-346540/21	1YH2921.D	08/29/2014	10:37
FM0350A-CSD4"	680-104534-18	1YH2917.D	08/29/2014	16:07
HP0085A-CS12"	680-104534-6	1YH2918.D	08/29/2014	16:30
HP0085B-CS24"	680-104534-13	1YH2919.D	08/29/2014	16:53

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: ICIS 680-345423/2 Date Analyzed: 08/22/2014 11:57
 Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1KH2202.D Heated Purge: (Y/N) N
 Calibration ID: 33574

	NPT		ANT		PHN	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	445777	4.10	230302	5.88	310268	7.49
UPPER LIMIT	891554	4.60	460604	6.38	620536	7.99
LOWER LIMIT	222889	3.60	115151	5.38	155134	6.99
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 680-345423/9		508042	4.10	268045	5.88	372511 7.49

NPT = Naphthalene-d8

ANT = Acenaphthene-d10

PHN = Phenanthrene-d10

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Sample No.: ICIS 680-345423/2 Date Analyzed: 08/22/2014 11:57
Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm)
Lab File ID (Standard): 1KH2202.D Heated Purge: (Y/N) N
Calibration ID: 33574

	CRY		PRY			
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	244558	10.32	193608	11.80		
UPPER LIMIT	489116	10.82	387216	12.30		
LOWER LIMIT	122279	9.82	96804	11.30		
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 680-345423/9		296254 10.31	245630	11.77		

CRY = Chrysene-d12

PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: CCVIS 680-345964/2 Date Analyzed: 08/26/2014 13:59
 Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1KH2602.D Heated Purge: (Y/N) N
 Calibration ID: 33574

	NPT		ANT		PHN	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD	572747	4.02	292216	5.80	395697	7.41
UPPER LIMIT	1145494	4.52	584432	6.30	791394	7.91
LOWER LIMIT	286374	3.52	146108	5.30	197849	6.91
LAB SAMPLE ID	CLIENT SAMPLE ID					
680-104534-8	HP0085A-CS18"	548409	4.02	270020	5.80	353596 7.40
680-104534-9	HP0085A-CS24"	565344	4.02	281266	5.80	355547 7.40
680-104534-12	HP0085B-CS18"	581793	4.01	295762	5.80	375464 7.40
680-104534-14	FM0350A-CS4"	470412	4.02	238626	5.80	282883 7.40
680-104534-15	FM0350B-CS4"	519483	4.02	267882	5.80	346068 7.40
680-104534-16	FM0350C-CS4"	561402	4.02	270378	5.80	349521 7.40
680-104534-17	FM0350D-CS4"	592324	4.02	296757	5.80	371759 7.41

NPT = Naphthalene-d8

ANT = Acenaphthene-d10

PHN = Phenanthrene-d10

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: CCVIS 680-345964/2 Date Analyzed: 08/26/2014 13:59
 Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1KH2602.D Heated Purge: (Y/N) N
 Calibration ID: 33574

	CRY		PRY			
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD	325141	10.23	265572	11.67		
UPPER LIMIT	650282	10.73	531144	12.17		
LOWER LIMIT	162571	9.73	132786	11.17		
LAB SAMPLE ID	CLIENT SAMPLE ID					
680-104534-8	HP0085A-CS18"	247598	10.22	206450	11.66	
680-104534-9	HP0085A-CS24"	244151	10.22	210196	11.66	
680-104534-12	HP0085B-CS18"	267741	10.22	226855	11.66	
680-104534-14	FM0350A-CS4"	200429	10.23	164781	11.66	
680-104534-15	FM0350B-CS4"	257341	10.23	211342	11.66	
680-104534-16	FM0350C-CS4"	262180	10.23	151028	11.67	
680-104534-17	FM0350D-CS4"	274972	10.23	197226	11.67	

CRY = Chrysene-d12

PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: CCVIS 680-345693/2 Date Analyzed: 08/25/2014 11:27
 Instrument ID: CMSY GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1YH2502.D Heated Purge: (Y/N) N
 Calibration ID: 33517

	NPT		ANT		PHN		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	338071	4.25	185394	6.09	260585	7.75	
UPPER LIMIT	676142	4.75	370788	6.59	521170	8.25	
LOWER LIMIT	169036	3.75	92697	5.59	130293	7.25	
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 680-345506/21-A		292750	4.24	154993	6.09	213435	7.75
LCS 680-345506/22-A		294837	4.24	156108	6.09	218850	7.75
680-104534-1 MS	CV0004A-CS4" MS	307791	4.25	162551	6.09	238550	7.75
680-104534-1 MSD	CV0004A-CS4" MSD	316849	4.25	165927	6.09	239572	7.75
680-104534-1	CV0004A-CS4"	340737	4.25	180502	6.09	264200	7.75
680-104534-2	CV0004B-CS4"	289534	4.26	162253	6.09	238066	7.75
680-104534-3	CV0163A-CS4"	342369	4.26	189035	6.09	288960	7.75
680-104534-4	CV0163A-CS4"	359329	4.25	199048	6.09	303200	7.75
680-104534-5	HP0085A-CS6"	336922	4.26	186344	6.09	279303	7.75
680-104534-10	HP0085B-CS6"	330932	4.25	188845	6.09	279317	7.75
680-104534-11	HP0085B-CS12"	321482	4.24	179956	6.09	268313	7.75

NPT = Naphthalene-d8

ANT = Acenaphthene-d10

PHN = Phenanthrene-d10

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: CCVIS 680-345693/2 Date Analyzed: 08/25/2014 11:27
 Instrument ID: CMSY GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1YH2502.D Heated Purge: (Y/N) N
 Calibration ID: 33517

	CRY		PRY			
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD	200319	10.64	166054	12.25		
UPPER LIMIT	400638	11.14	332108	12.75		
LOWER LIMIT	100160	10.14	83027	11.75		
LAB SAMPLE ID	CLIENT SAMPLE ID					
MB 680-345506/21-A		156498	10.64	115624	12.25	
LCS 680-345506/22-A		171504	10.64	131892	12.25	
680-104534-1 MS	CV0004A-CS4" MS	186609	10.63	152679	12.25	
680-104534-1 MSD	CV0004A-CS4" MSD	165646	10.63	118964	12.25	
680-104534-1	CV0004A-CS4"	166963	10.64	113550	12.25	
680-104534-2	CV0004B-CS4"	145596	10.63	90452	12.25	
680-104534-3	CV0163A-CS4"	169549	10.64	98729	12.25	
680-104534-4	CV0163A-CS4"	179106	10.64	111157	12.25	
680-104534-5	HP0085A-CS6"	162730	10.64	94849	12.25	
680-104534-10	HP0085B-CS6"	168903	10.64	97564	12.25	
680-104534-11	HP0085B-CS12"	161489	10.64	95451	12.25	

CRY = Chrysene-d12

PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Sample No.: CCVIS 680-346540/21 Date Analyzed: 08/29/2014 10:37
 Instrument ID: CMSY GC Column: RXi- 5Sil MS ID: 0.25 (mm)
 Lab File ID (Standard): 1YH2921.D Heated Purge: (Y/N) N
 Calibration ID: 33517

	NPT		ANT		PHN	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD	288273	4.21	165649	6.05	263676	7.70
UPPER LIMIT	576546	4.71	331298	6.55	527352	8.20
LOWER LIMIT	144137	3.71	82825	5.55	131838	7.20
LAB SAMPLE ID	CLIENT SAMPLE ID					
680-104534-18	FM0350A-CSD4"		291539	4.21	159390	6.05
680-104534-6	HP0085A-CS12"		302548	4.21	166000	6.05
680-104534-13	HP0085B-CS24"		305347	4.21	166053	6.05
					257616	7.70
					267465	7.71
					265552	7.70

NPT = Naphthalene-d8

ANT = Acenaphthene-d10

PHN = Phenanthrene-d10

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Sample No.: CCVIS 680-346540/21 Date Analyzed: 08/29/2014 10:37
Instrument ID: CMSY GC Column: RXi- 5Sil MS ID: 0.25 (mm)
Lab File ID (Standard): 1YH2921.D Heated Purge: (Y/N) N
Calibration ID: 33517

	CRY		PRY			
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD	254586	10.60	223901	12.19		
UPPER LIMIT	509172	11.10	447802	12.69		
LOWER LIMIT	127293	10.10	111951	11.69		
LAB SAMPLE ID	CLIENT SAMPLE ID					
680-104534-18	FM0350A-CSD4"		211072	10.60	148986	12.20
680-104534-6	HP0085A-CS12"		209366	10.60	135002	12.20
680-104534-13	HP0085B-CS24"		215071	10.59	139584	12.20

CRY = Chrysene-d12

PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area

RT Limit = \pm 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D_LL_PAH

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004A-CS4"</u>	Lab Sample ID: <u>680-104534-1</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2509.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/25/2014 14:49</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U	83	41
208-96-8	Acenaphthylene	83	U	83	41
120-12-7	Anthracene	64	J	83	41
56-55-3	Benzo[a]anthracene	410		83	41
50-32-8	Benzo[a]pyrene	390		83	15
205-99-2	Benzo[b]fluoranthene	660		83	41
191-24-2	Benzo[g,h,i]perylene	330		83	41
207-08-9	Benzo[k]fluoranthene	260		83	25
218-01-9	Chrysene	470		83	41
53-70-3	Dibenz(a,h)anthracene	97		83	41
206-44-0	Fluoranthene	730		83	41
86-73-7	Fluorene	83	U	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	250		83	41
90-12-0	1-Methylnaphthalene	77	J	83	38
91-57-6	2-Methylnaphthalene	77	J	83	41
91-20-3	Naphthalene	54	J	83	41
85-01-8	Phenanthrene	400		83	30
129-00-0	Pyrene	640		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D
 Lims ID: 680-104534-A-1-A Lab Sample ID: 680-104534-1
 Client ID: CV0004A-CS4"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 14:49:30 ALS Bottle#: 9 Worklist Smp#: 9
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-1-A DL=10
 Misc. Info.: 680-0012210-009
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 10:53:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK025

First Level Reviewer: webbk

Date: 25-Aug-2014 16:35:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	99	340737	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	180502	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	264200	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	98	166963	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	99	113550	2.00	
7 Naphthalene	128	4.271	4.271	0.000	77	20746	0.1317	
8 2-Methylnaphthalene	142	4.966	4.971	-0.005	85	18940	0.1858	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	82	18281	0.1865	
10 1,1'-Biphenyl	154	5.463	5.463	0.000	0	3664	NC	
11 Acenaphthylene	152	5.934	5.934	0.000	91	10572	0.0722	
12 Acenaphthene	153	6.121	6.127	-0.006	38	4308	0.0469	7
14 Fluorene	166	6.694	6.699	-0.005	55	6769	0.0684	
15 Phenanthrene	178	7.774	7.774	0.000	98	123007	0.9677	
16 Anthracene	178	7.827	7.833	-0.006	95	19361	0.1545	
17 Fluoranthene	202	9.106	9.106	0.000	98	219105	1.77	
18 Pyrene	202	9.352	9.352	0.000	98	168508	1.55	
19 Benzo[a]anthracene	228	10.619	10.625	-0.006	99	82687	0.9890	
20 Chrysene	228	10.657	10.662	-0.005	90	91191	1.12	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	96	99130	1.59	M
22 Benzo[k]fluoranthene	252	11.791	11.807	-0.016	48	38740	0.6355	M
23 Benzo[a]pyrene	252	12.171	12.171	-0.006	95	47814	0.9461	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	98	35405	0.6081	
25 Dibenz(a,h)anthracene	278	13.871	13.887	-0.016	71	9695	0.2346	
26 Benzo[g,h,i]perylene	276	14.342	14.347	-0.005	84	34195	0.7935	

QC Flag Legend

Processing Flags

NC - Not Calibrated

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Worklist Smp#: 9

Client ID: CV0004A-CS4"

Injection Vol: 2.0 ul

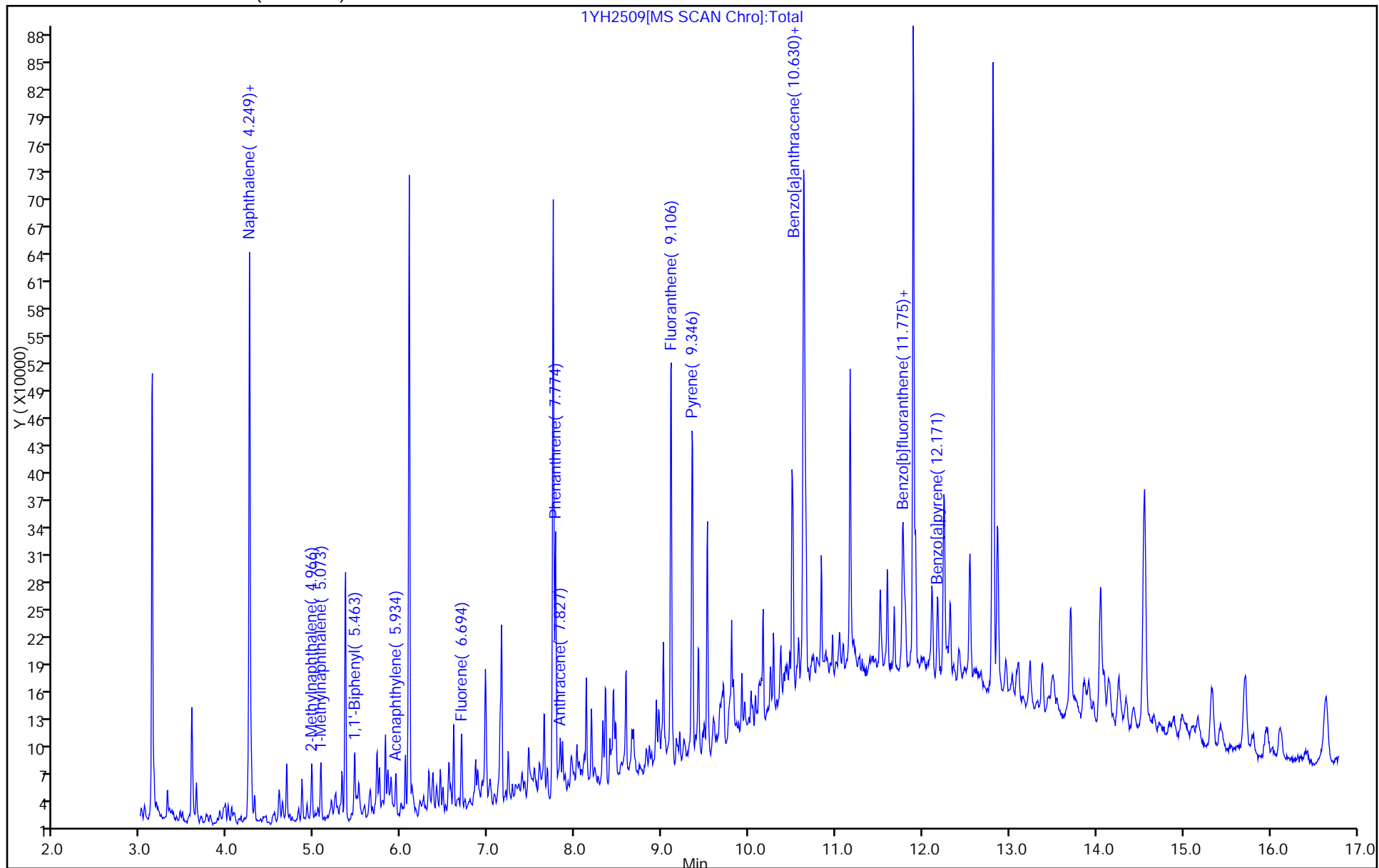
Dil. Factor: 10.0000

ALS Bottle#: 9

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

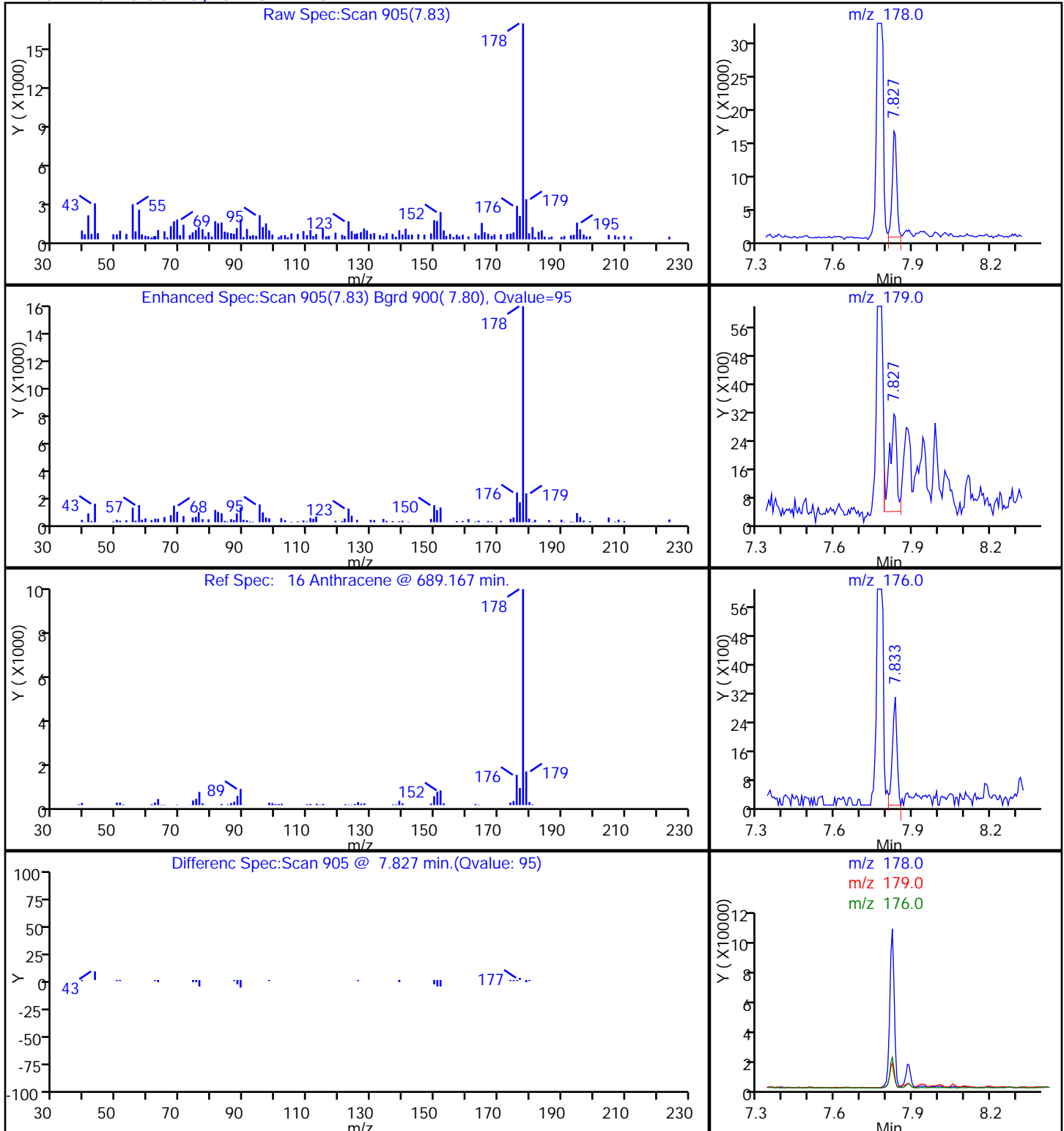
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

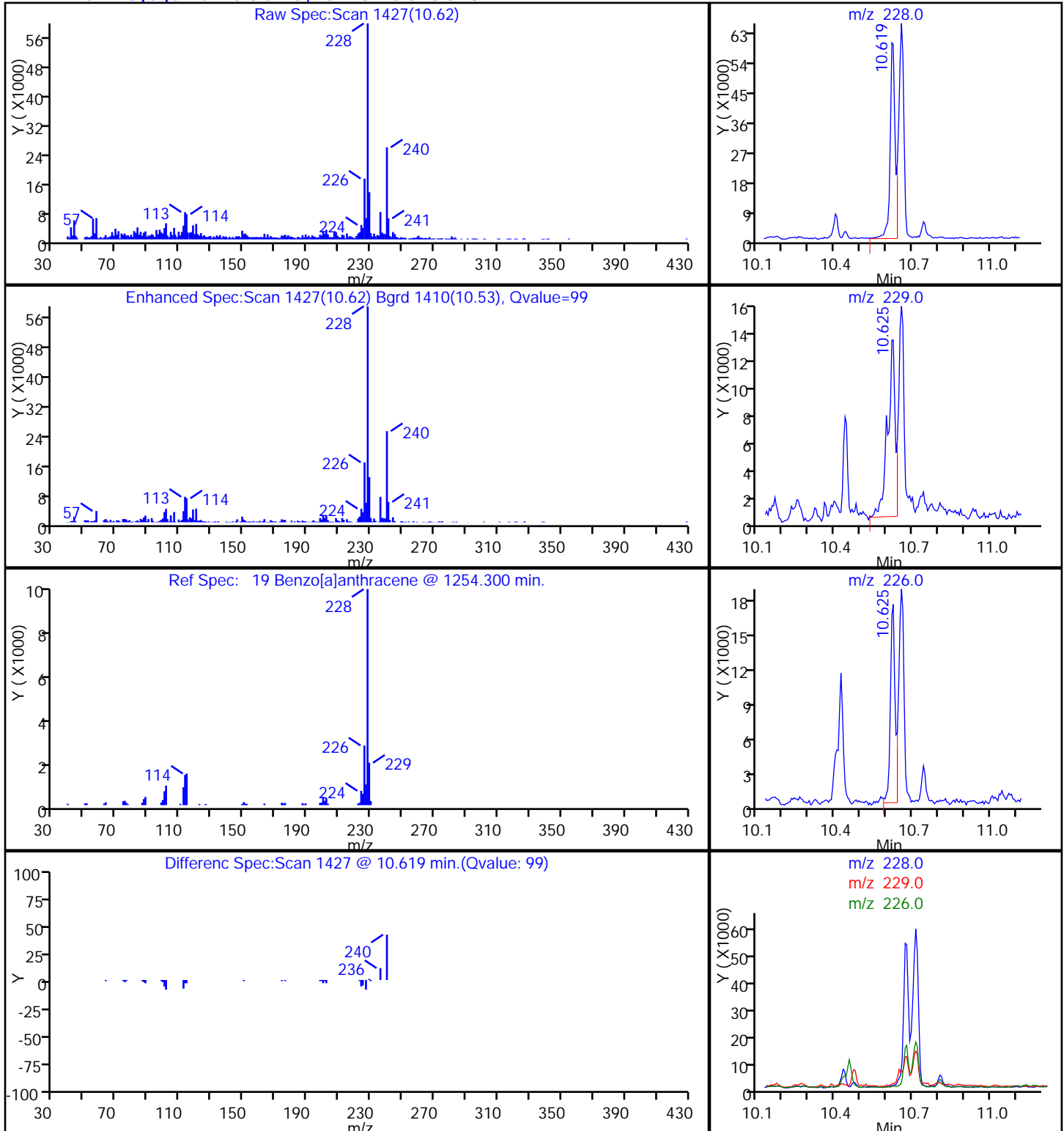
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

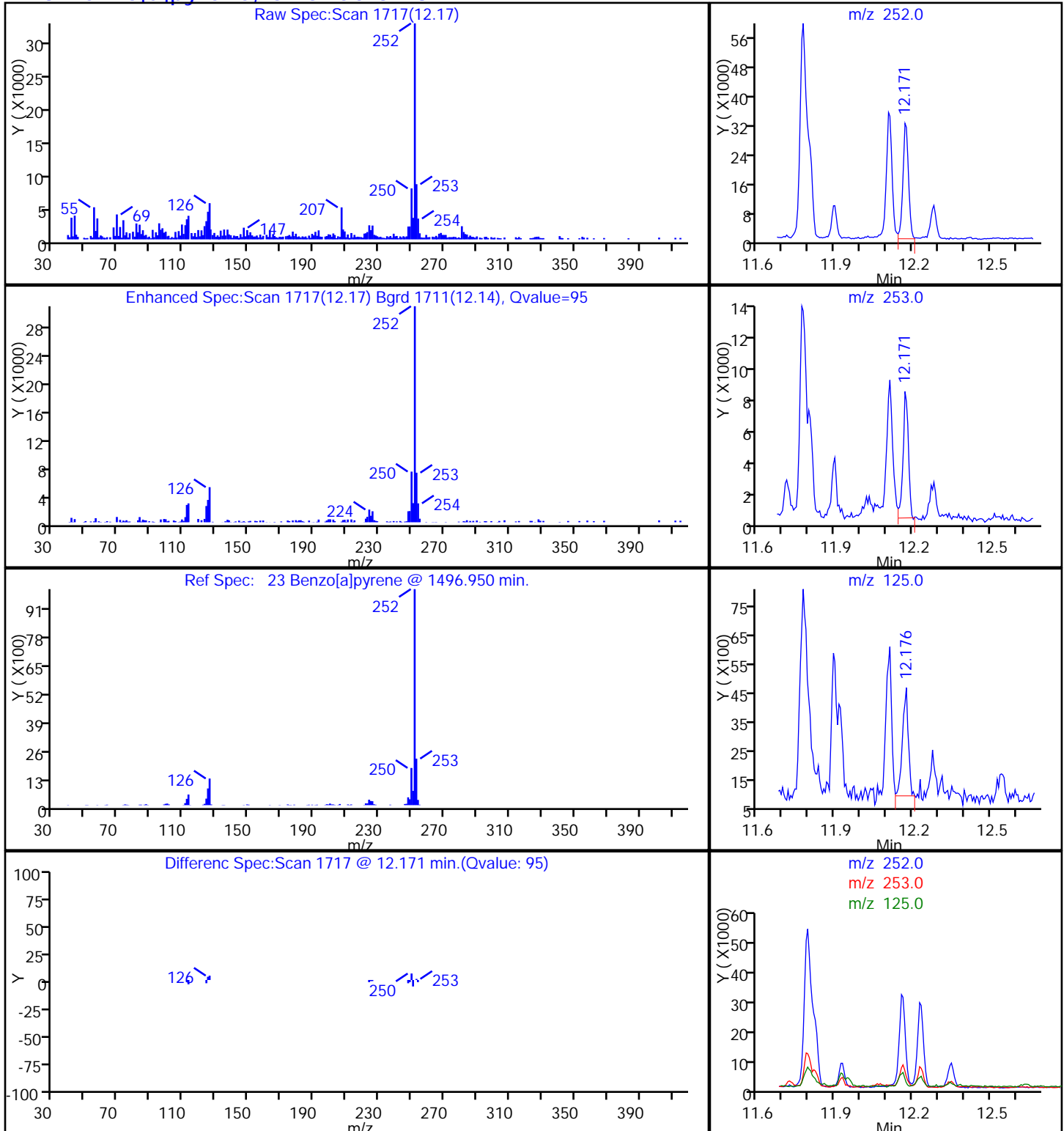
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

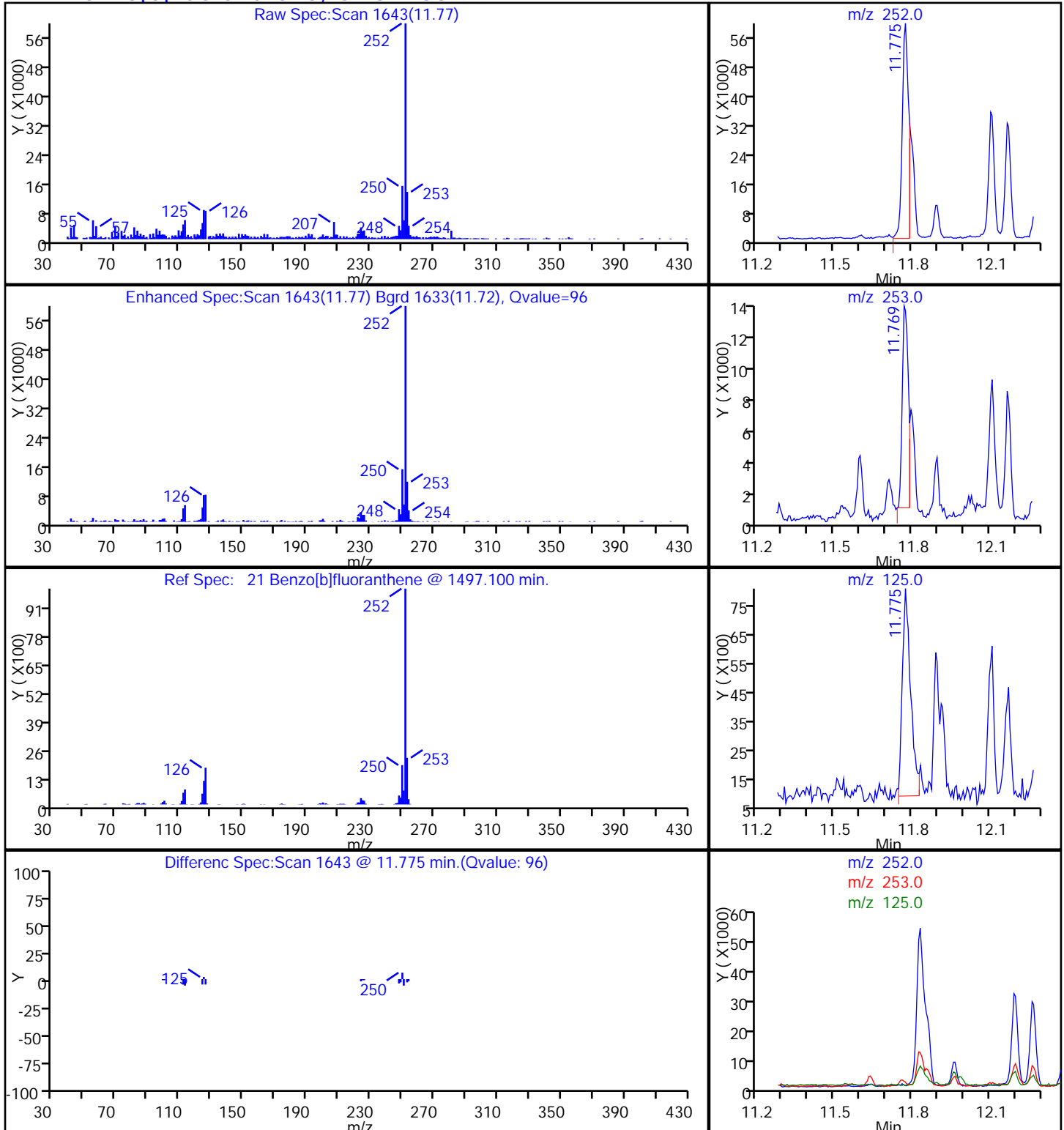
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

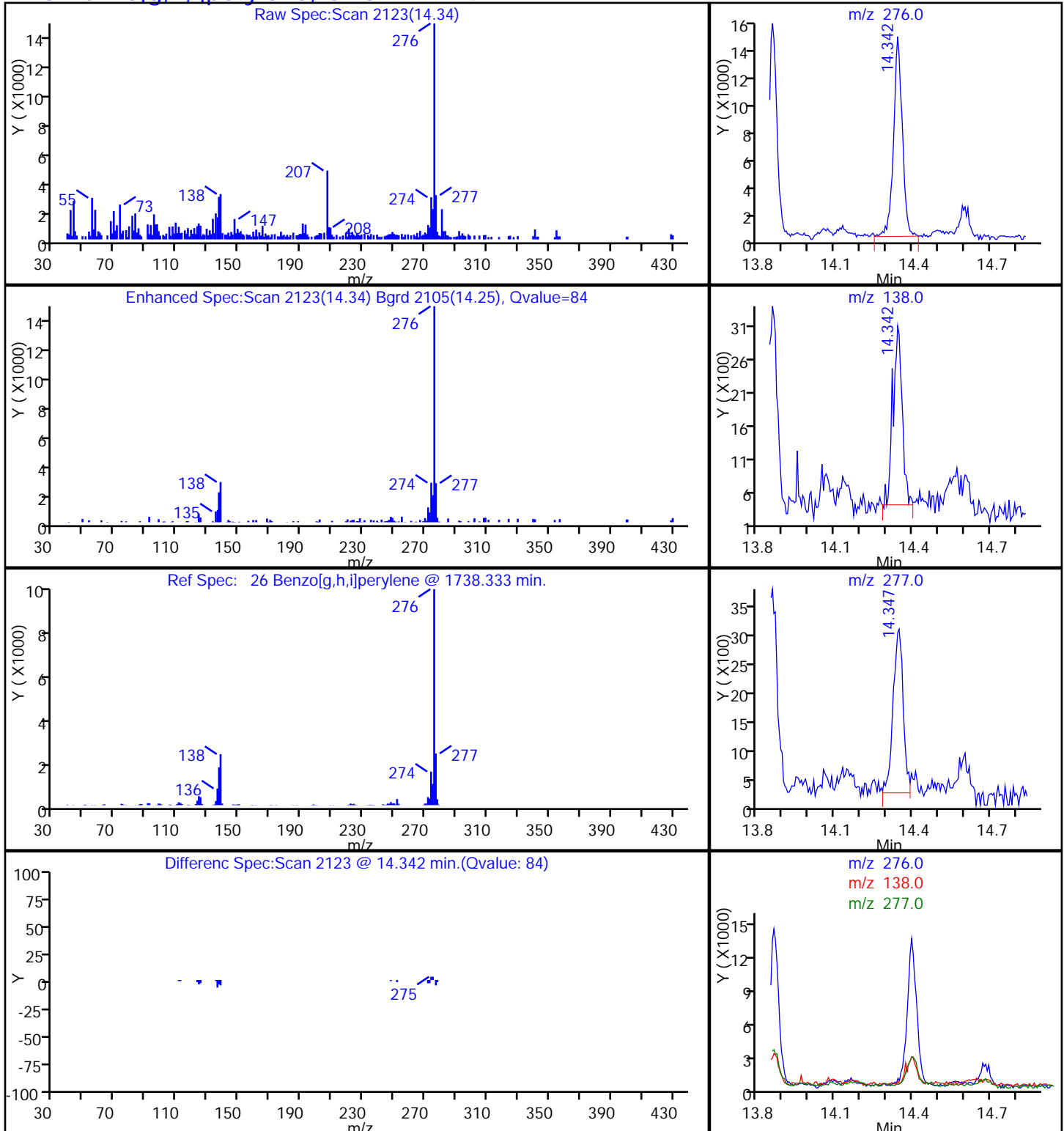
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

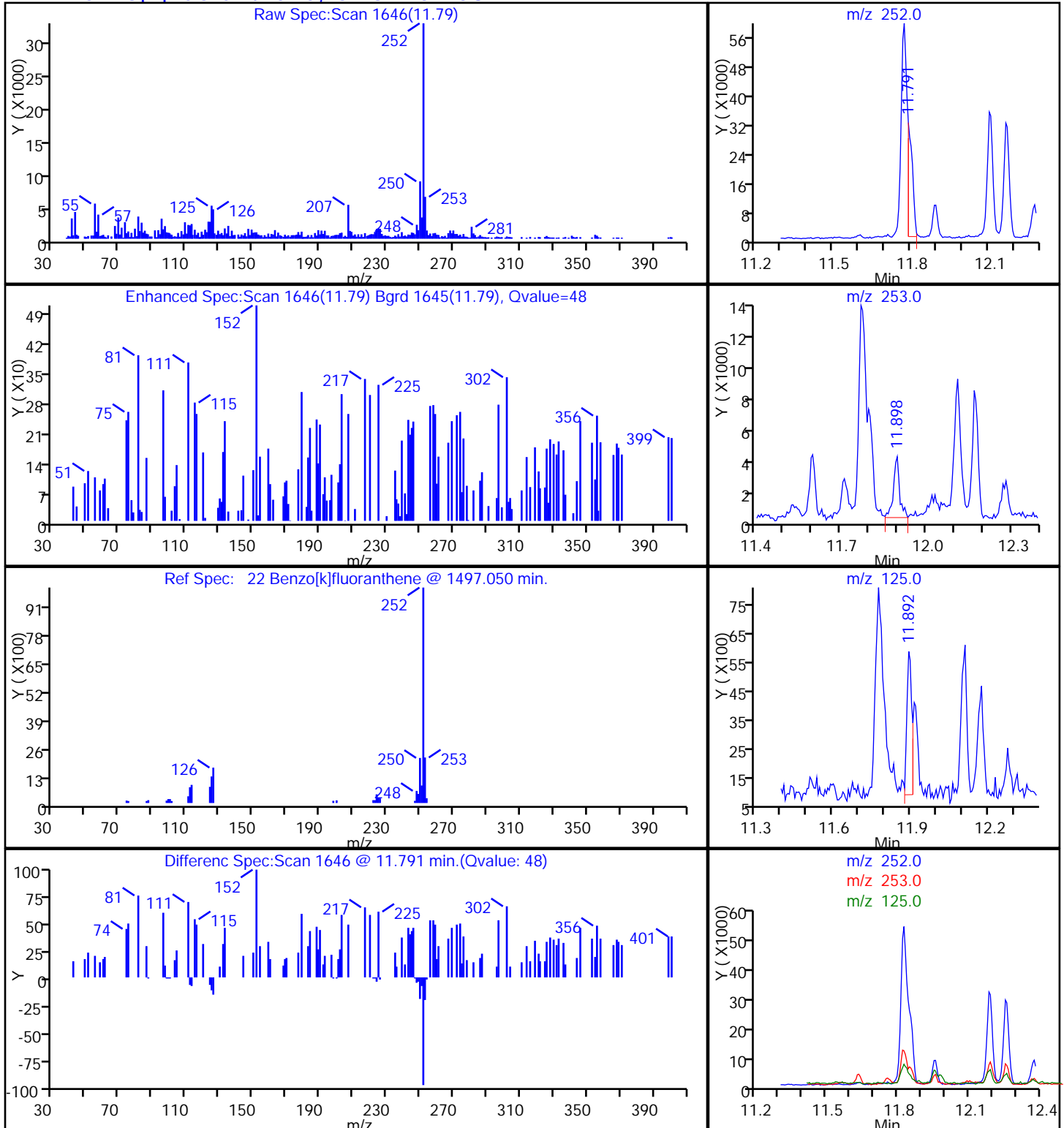
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

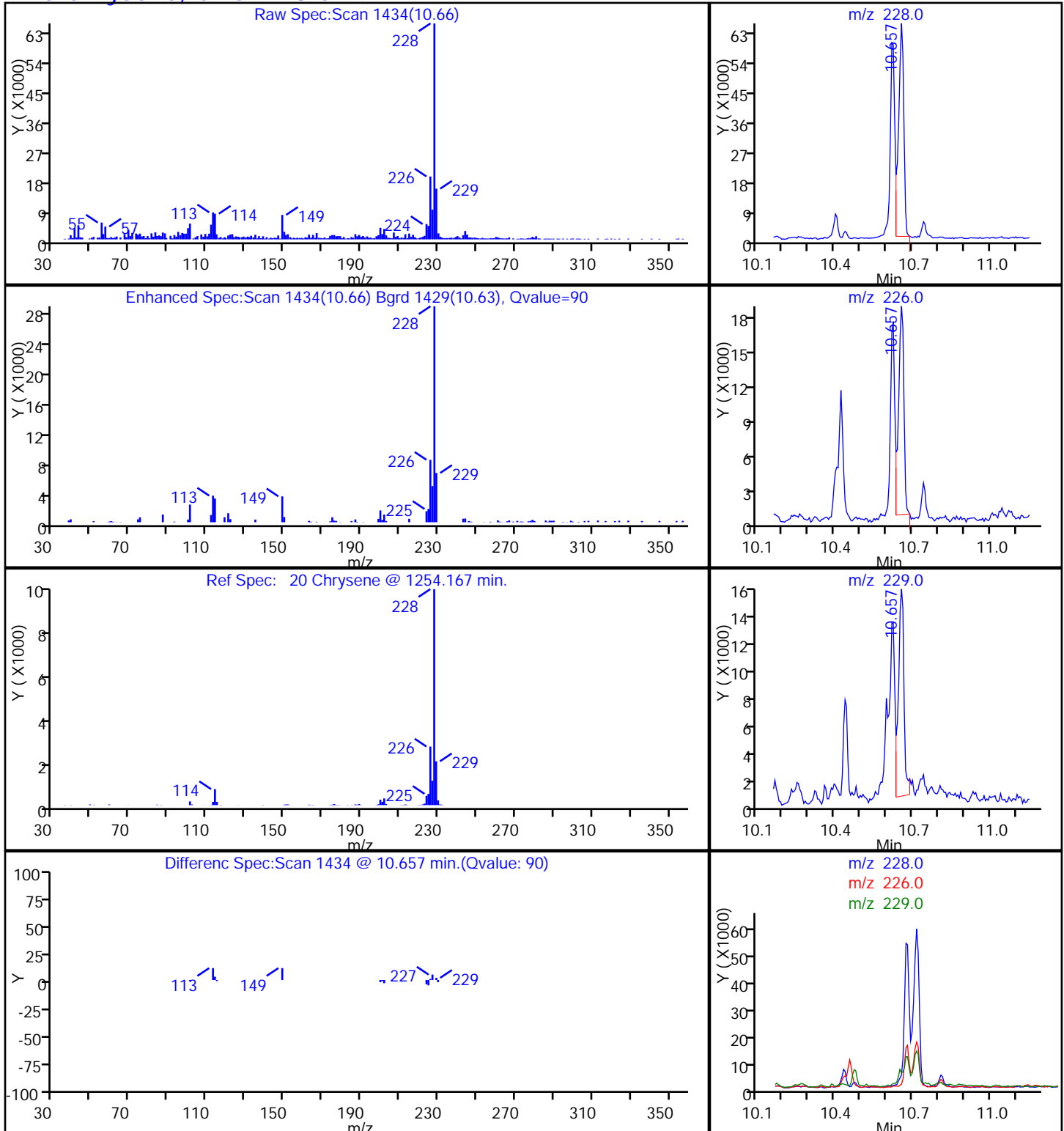
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

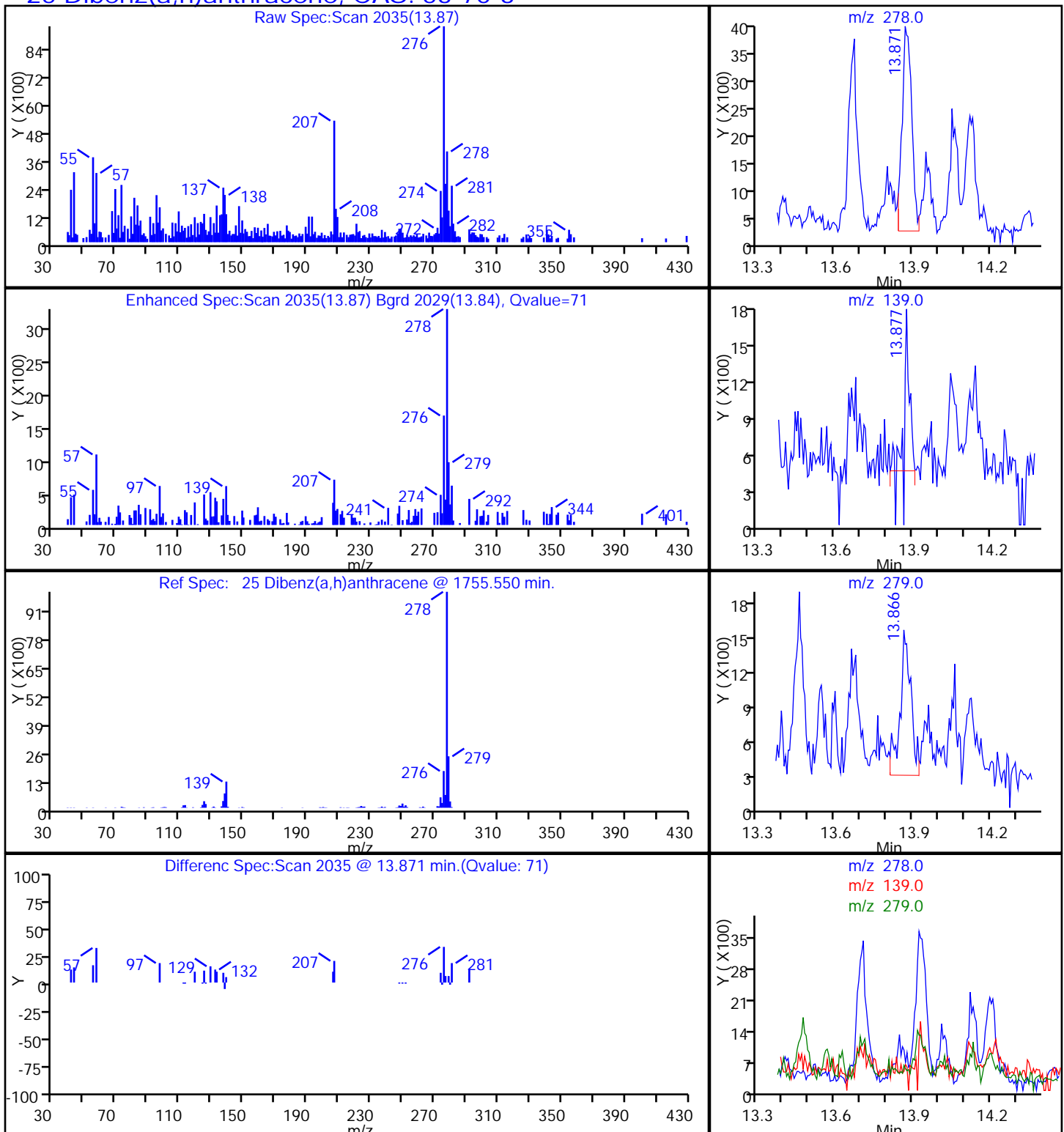
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

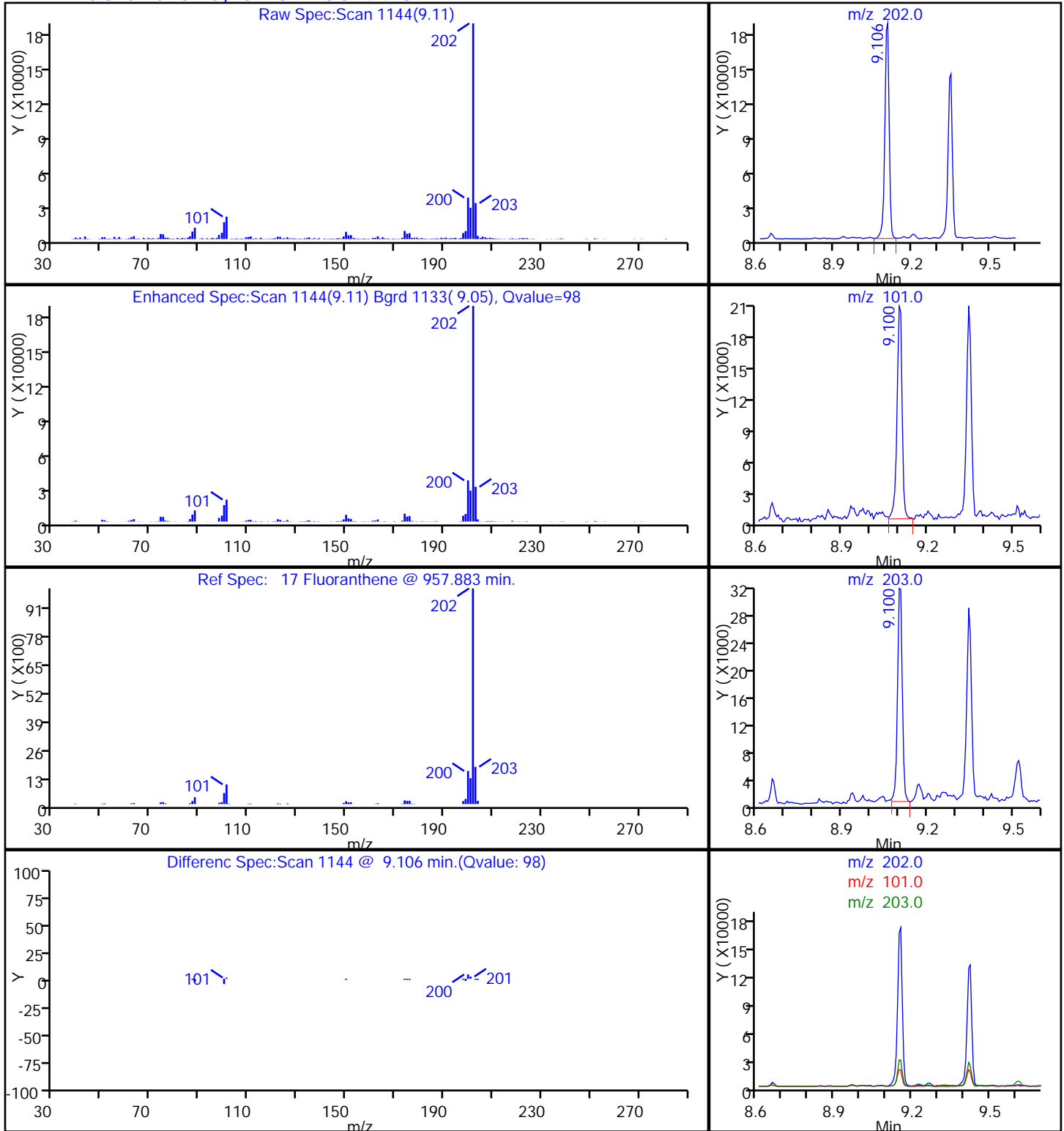
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

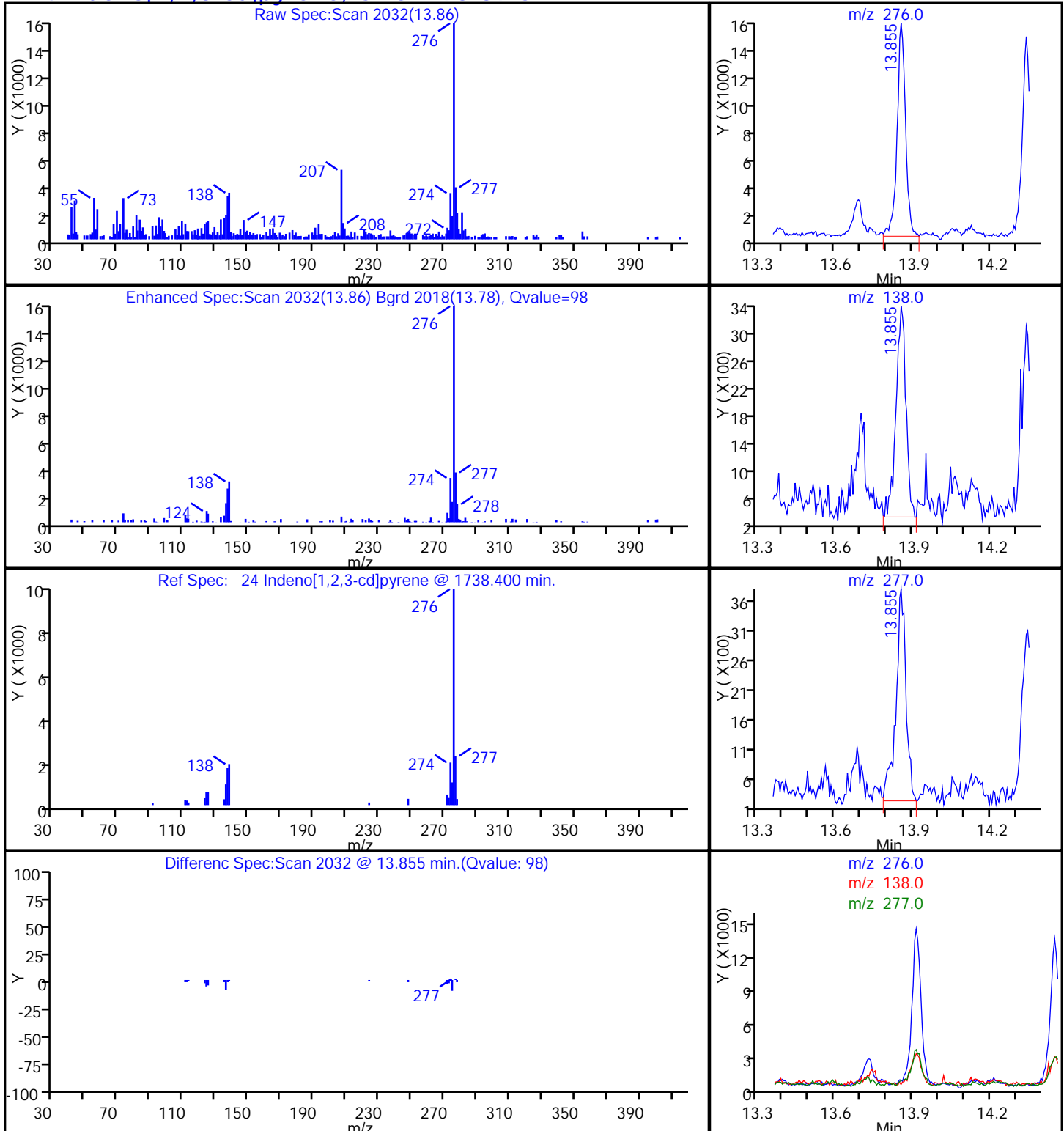
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

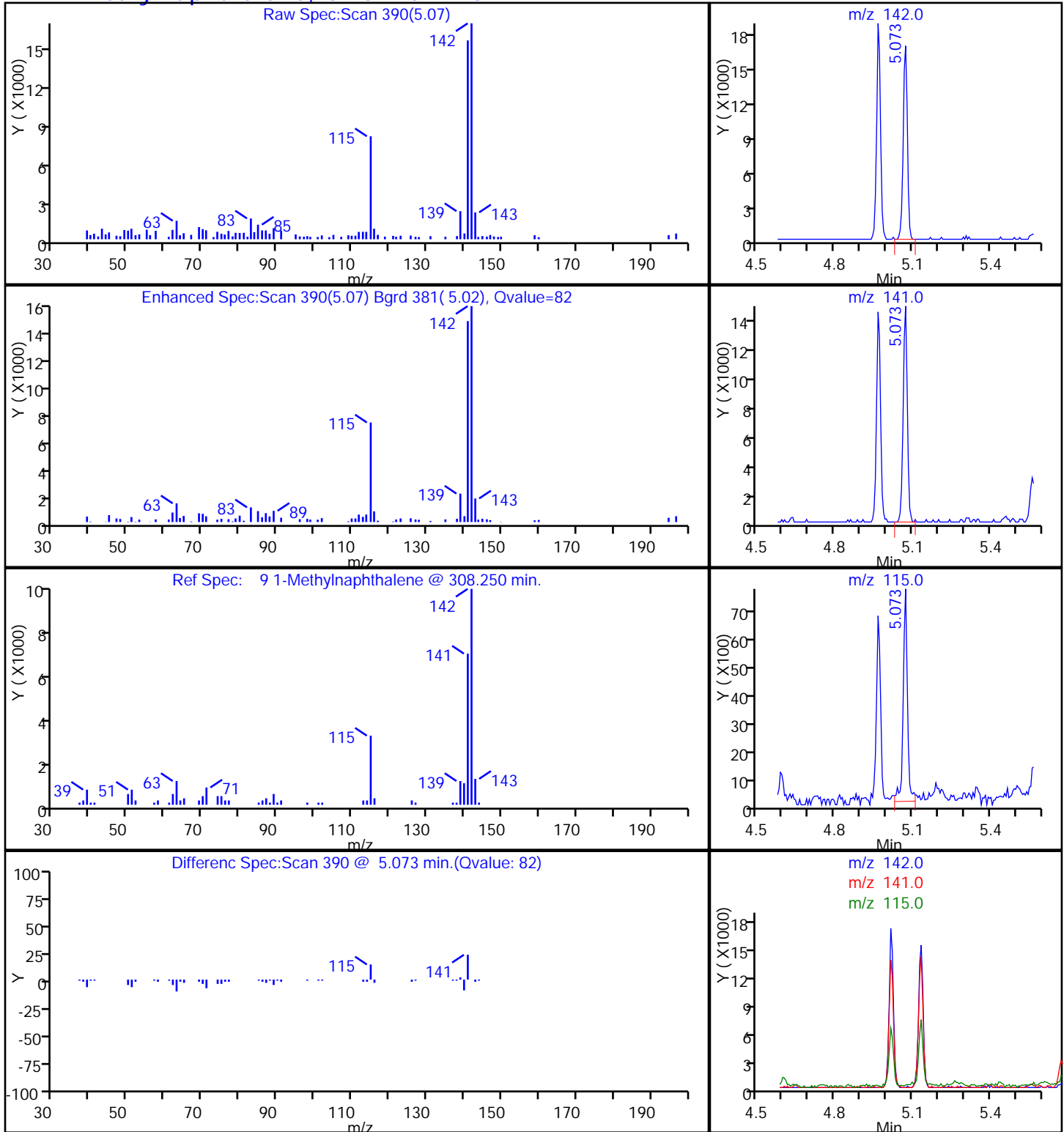
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

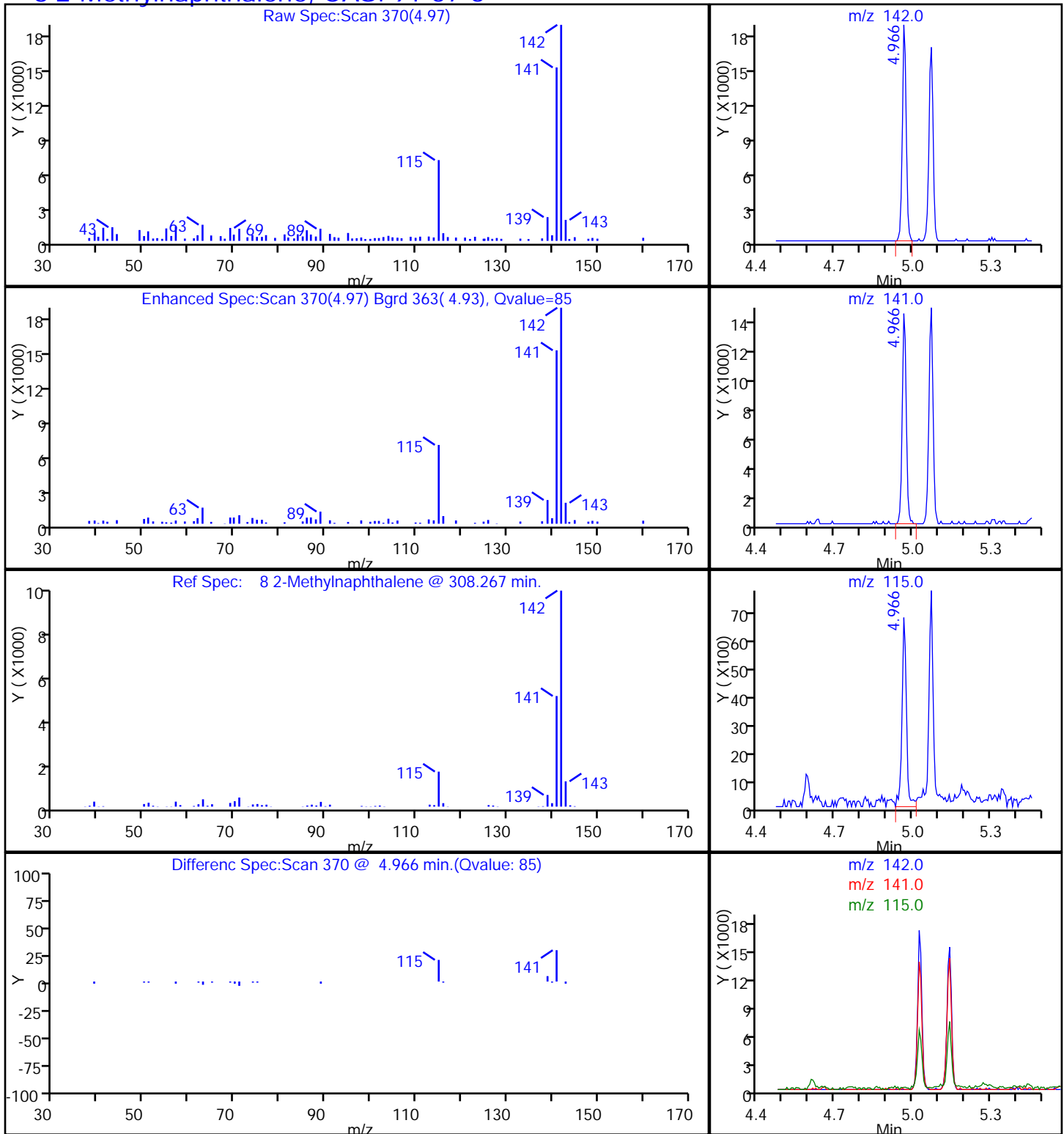
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

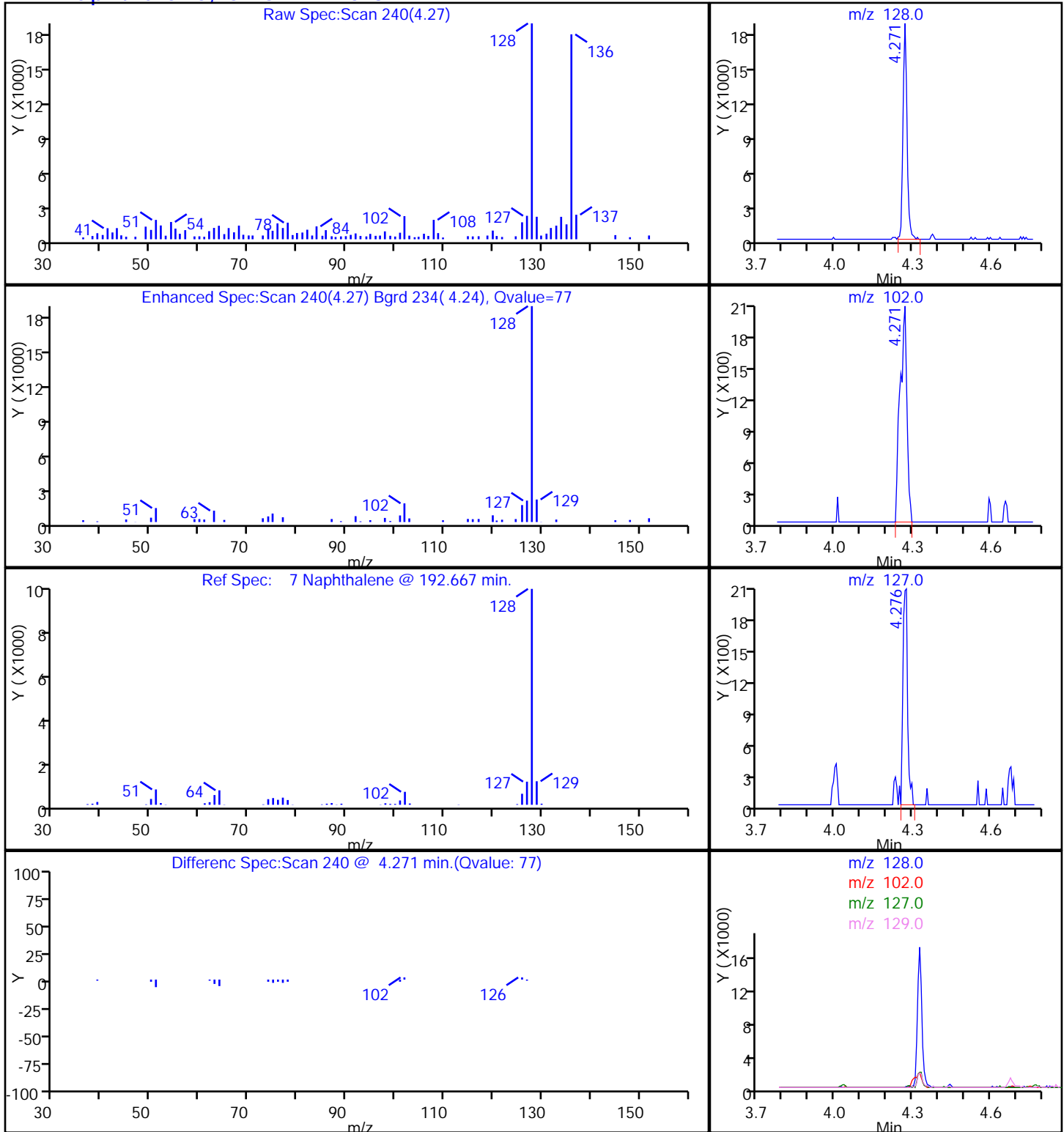
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

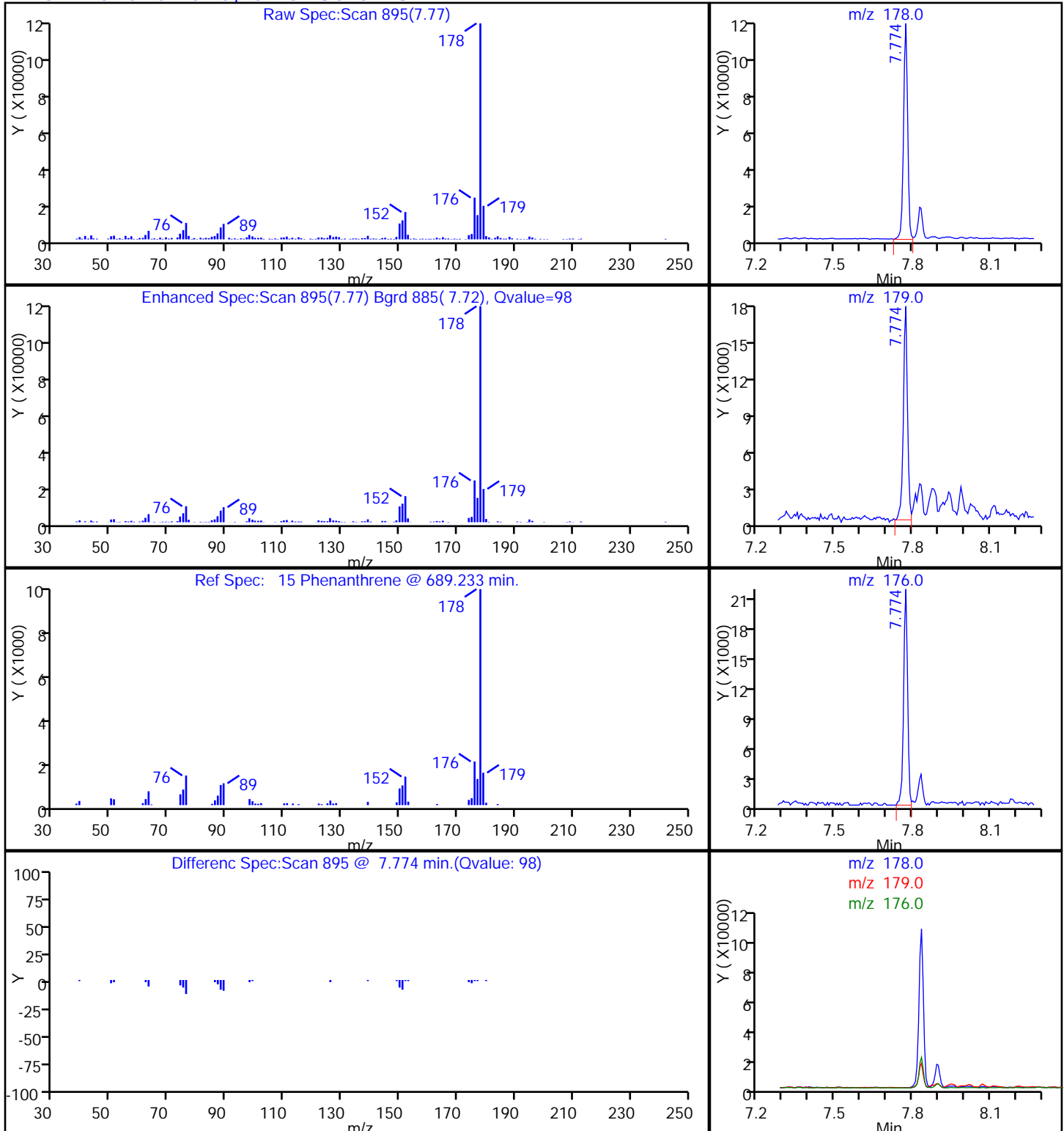
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D

Injection Date: 25-Aug-2014 14:49:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-A

Lab Sample ID: 680-104534-1

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

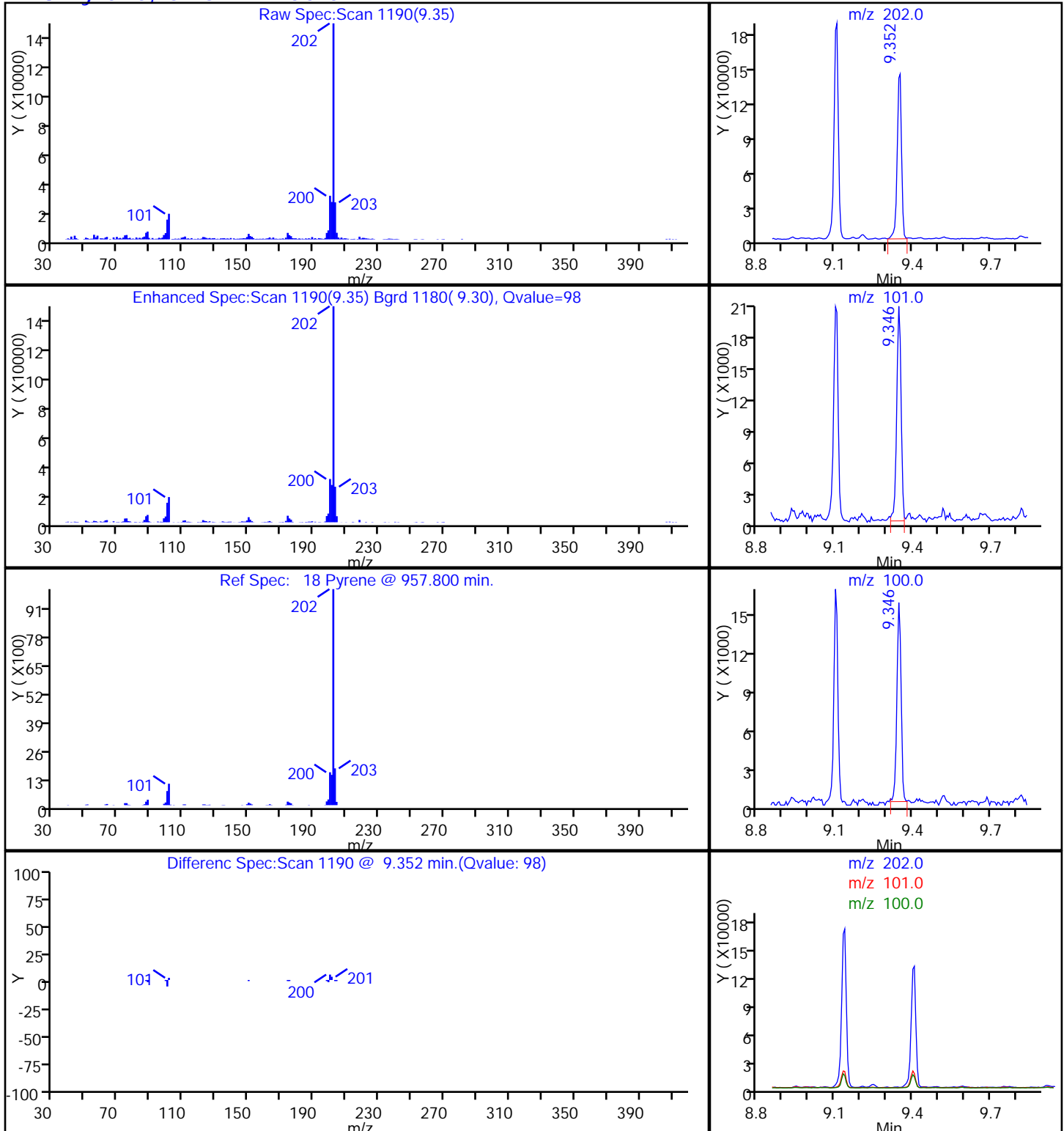
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



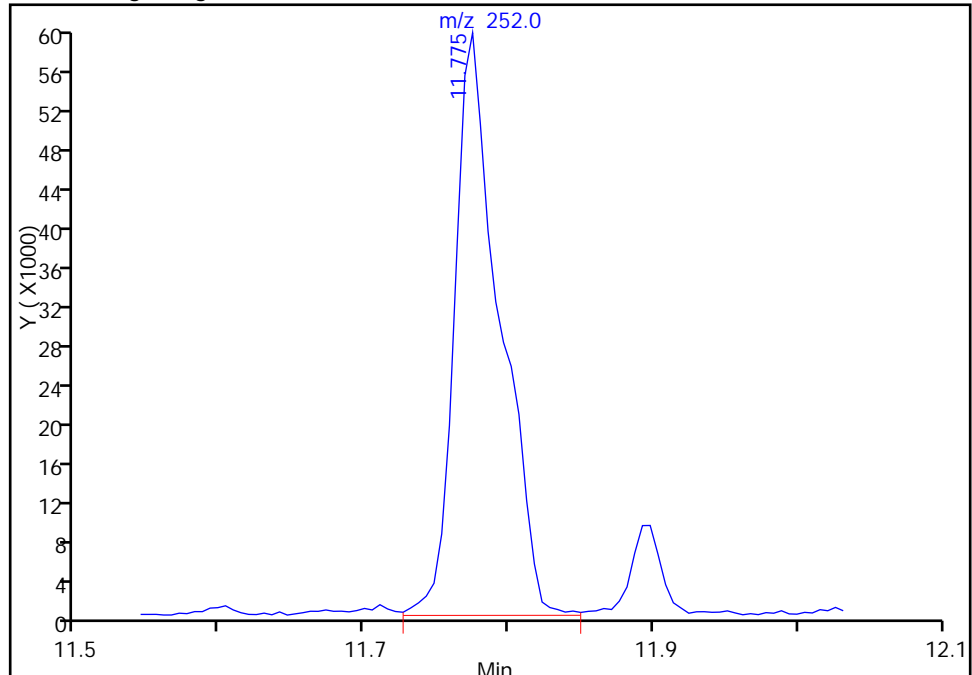
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D		
Injection Date:	25-Aug-2014 14:49:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-1-A	Lab Sample ID:	680-104534-1
Client ID:	CV0004A-CS4"		
Operator ID:	RM	ALS Bottle#:	9
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	9

21 Benzo[b]fluoranthene, CAS: 205-99-2

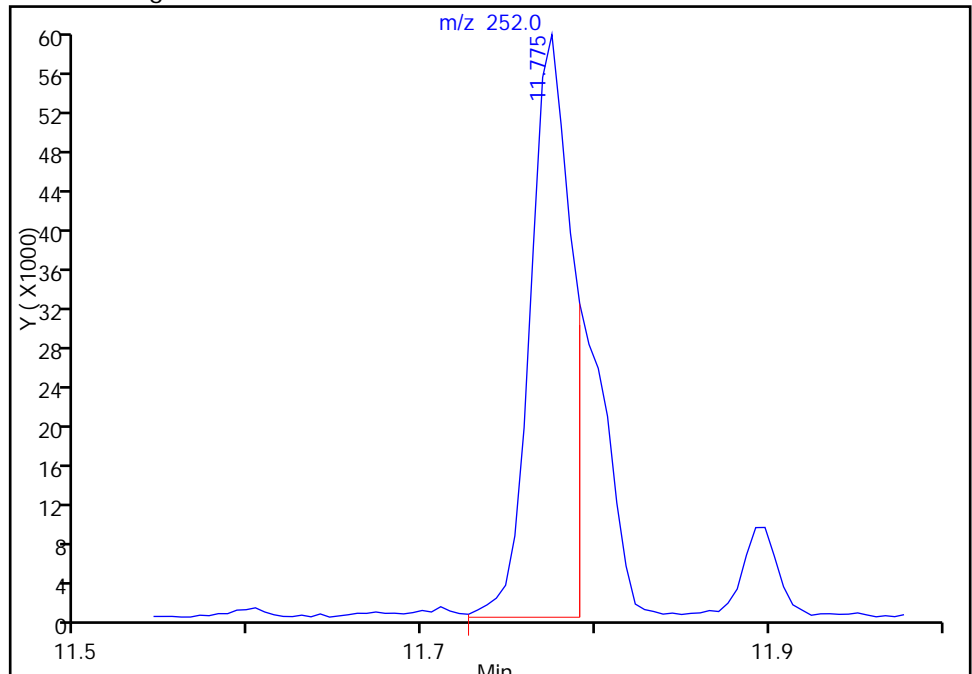
RT: 11.77
Response: 129535
Amount: 2.083091

Processing Integration Results



RT: 11.77
Response: 99130
Amount: 1.594139

Manual Integration Results



Reviewer: webbk, 25-Aug-2014 16:35:49
Audit Action: Manually Integrated
Audit Reason: Split Peak

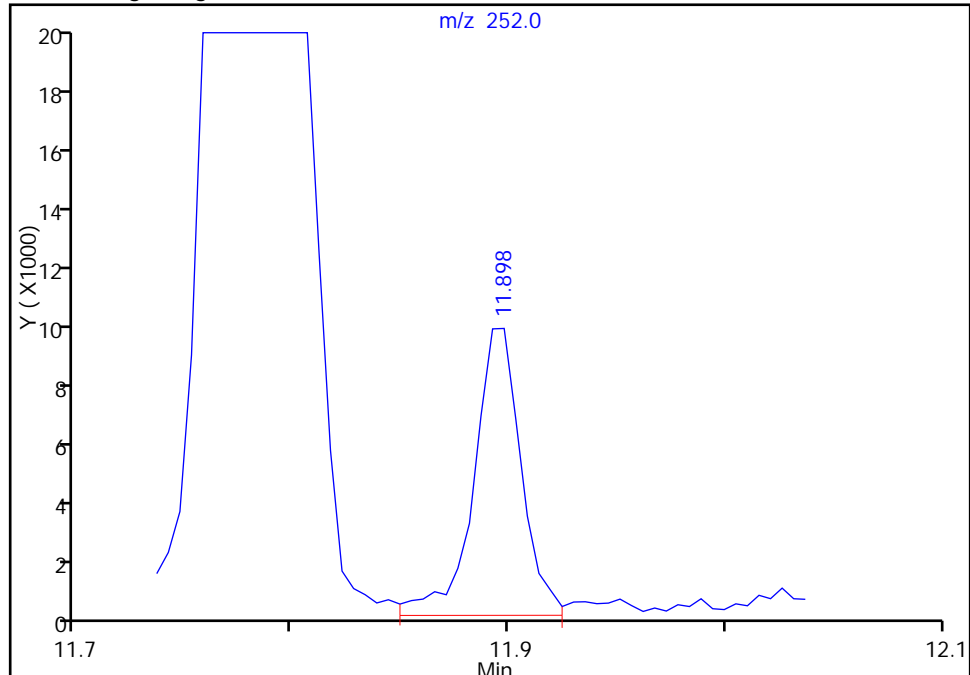
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2509.D		
Injection Date:	25-Aug-2014 14:49:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-1-A	Lab Sample ID:	680-104534-1
Client ID:	CV0004A-CS4"		
Operator ID:	RM	ALS Bottle#:	9
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	9

22 Benzo[k]fluoranthene, CAS: 207-08-9

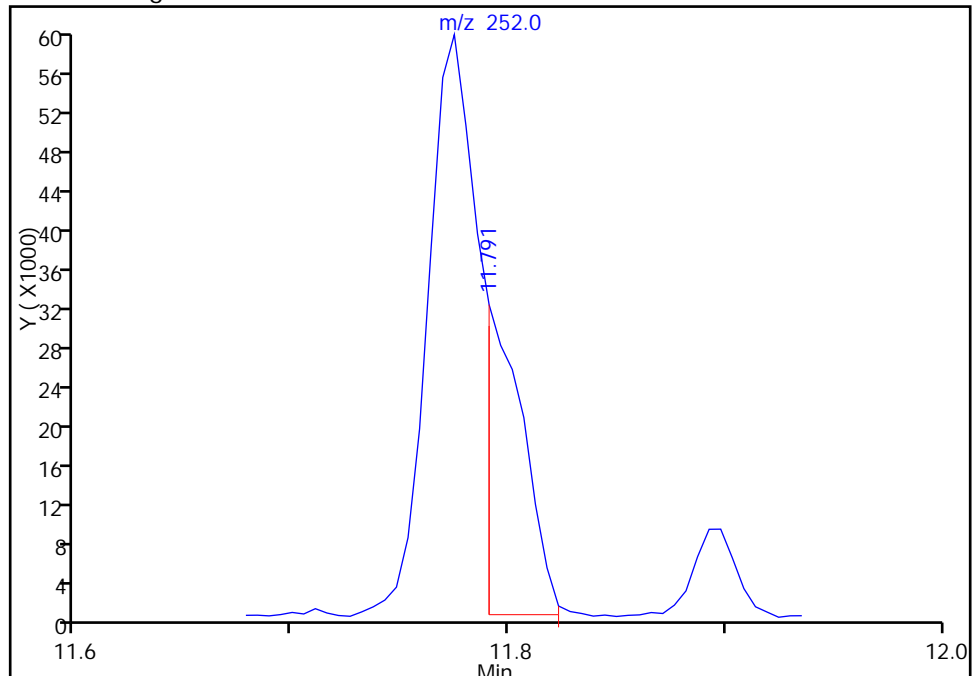
RT: 11.90
Response: 14161
Amount: 0.232289

Processing Integration Results



RT: 11.79
Response: 38740
Amount: 0.635469

Manual Integration Results



Reviewer: webbk, 25-Aug-2014 16:35:49
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004B-CS4"</u>	Lab Sample ID: <u>680-104534-2</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2510.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:45</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.05(g)</u>	Date Analyzed: <u>08/25/2014 15:12</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.0</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U	83	41
208-96-8	Acenaphthylene	83	U	83	41
120-12-7	Anthracene	54	J	83	41
56-55-3	Benzo[a]anthracene	240		83	41
50-32-8	Benzo[a]pyrene	220		83	15
205-99-2	Benzo[b]fluoranthene	370		83	41
191-24-2	Benzo[g,h,i]perylene	160		83	41
207-08-9	Benzo[k]fluoranthene	140		83	25
218-01-9	Chrysene	320		83	41
53-70-3	Dibenz(a,h)anthracene	83	U	83	41
206-44-0	Fluoranthene	420		83	41
86-73-7	Fluorene	83	U	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	110		83	41
90-12-0	1-Methylnaphthalene	85		83	38
91-57-6	2-Methylnaphthalene	120		83	41
91-20-3	Naphthalene	100		83	41
85-01-8	Phenanthrene	350		83	30
129-00-0	Pyrene	390		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D
 Lims ID: 680-104534-A-2-A Lab Sample ID: 680-104534-2
 Client ID: CV0004B-CS4"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 15:12:30 ALS Bottle#: 10 Worklist Smp#: 10
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-2-A DL=10
 Misc. Info.: 680-0012210-010
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 10:53:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK025

First Level Reviewer: webbk

Date: 26-Aug-2014 08:41:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.255	4.249	0.005	99	289534	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	162253	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	238066	2.00	
* 4 Chrysene-d12	240	10.630	10.636	-0.006	99	145596	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	98	90452	2.00	
7 Naphthalene	128	4.271	4.271	0.000	97	34195	0.2554	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	82	25816	0.2981	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	83	17209	0.2066	
12 Acenaphthene	153	6.127	6.127	0.000	49	5298	0.0641	
14 Fluorene	166	6.699	6.699	0.000	60	5349	0.0601	
15 Phenanthrene	178	7.774	7.774	0.000	95	96531	0.8428	
16 Anthracene	178	7.833	7.833	0.000	91	14938	0.1323	
17 Fluoranthene	202	9.100	9.106	-0.006	98	114335	1.03	
18 Pyrene	202	9.346	9.352	-0.006	97	90427	0.9557	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	67	43149	0.5919	
20 Chrysene	228	10.657	10.662	-0.005	88	54766	0.7746	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	97	44466	0.8977	M
22 Benzo[k]fluoranthene	252	11.791	11.807	-0.016	43	16897	0.3479	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	95	21462	0.5331	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	95	13513	0.2662	
26 Benzo[g,h,i]perylene	276	14.342	14.347	-0.005	81	13415	0.3908	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Worklist Smp#: 10

Client ID: CV0004B-CS4"

Injection Vol: 2.0 ul

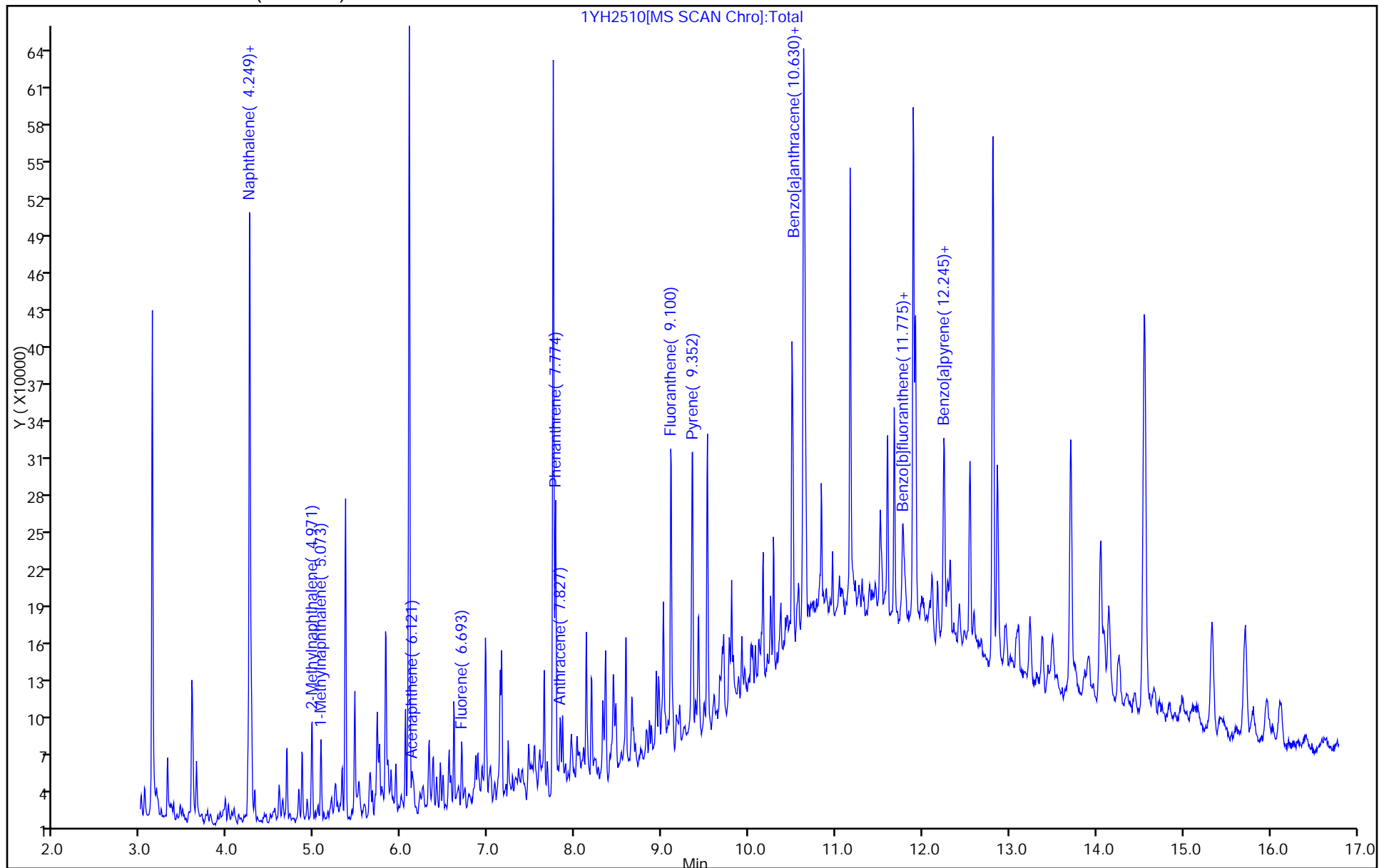
Dil. Factor: 10.0000

ALS Bottle#: 10

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

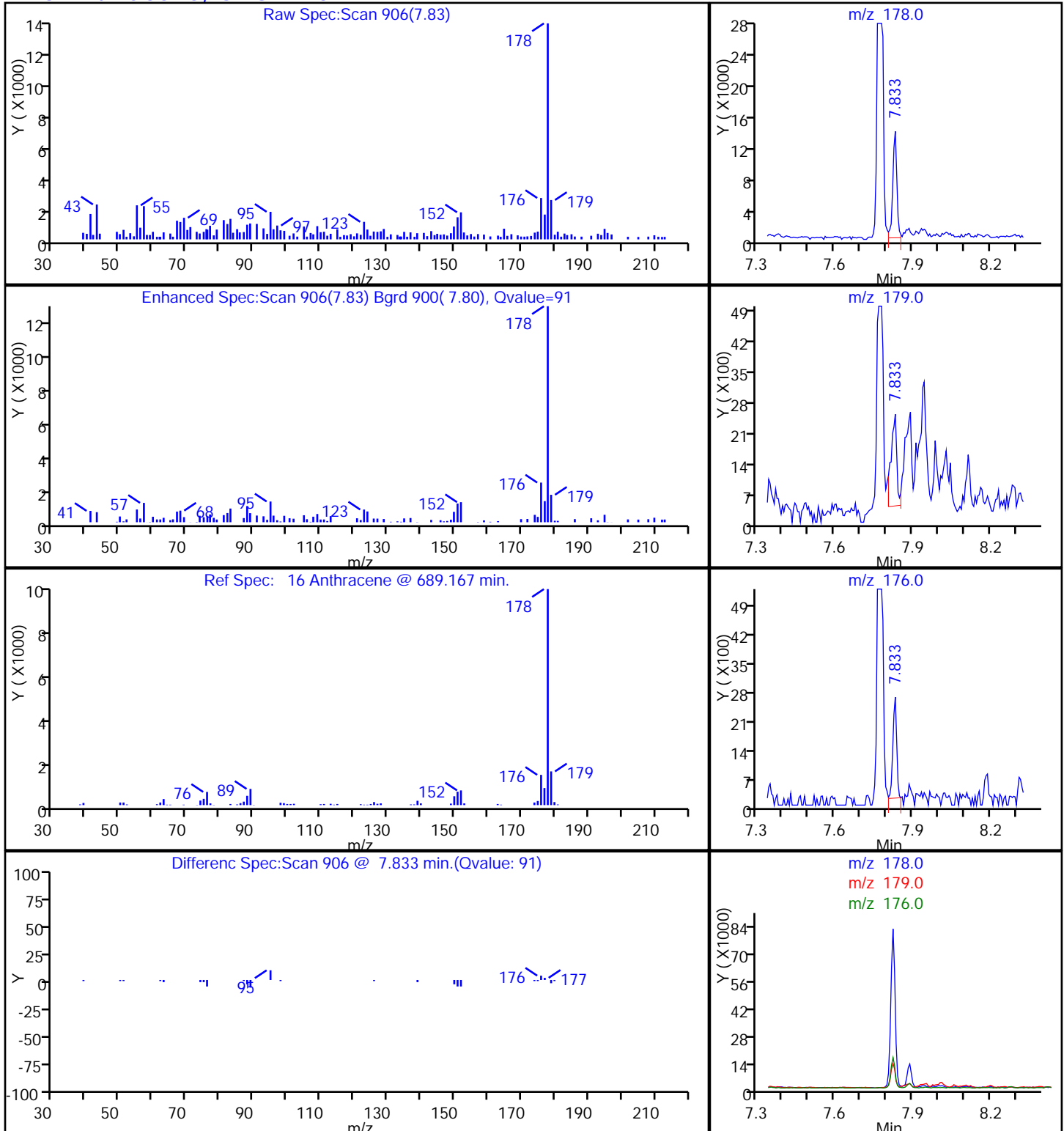
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

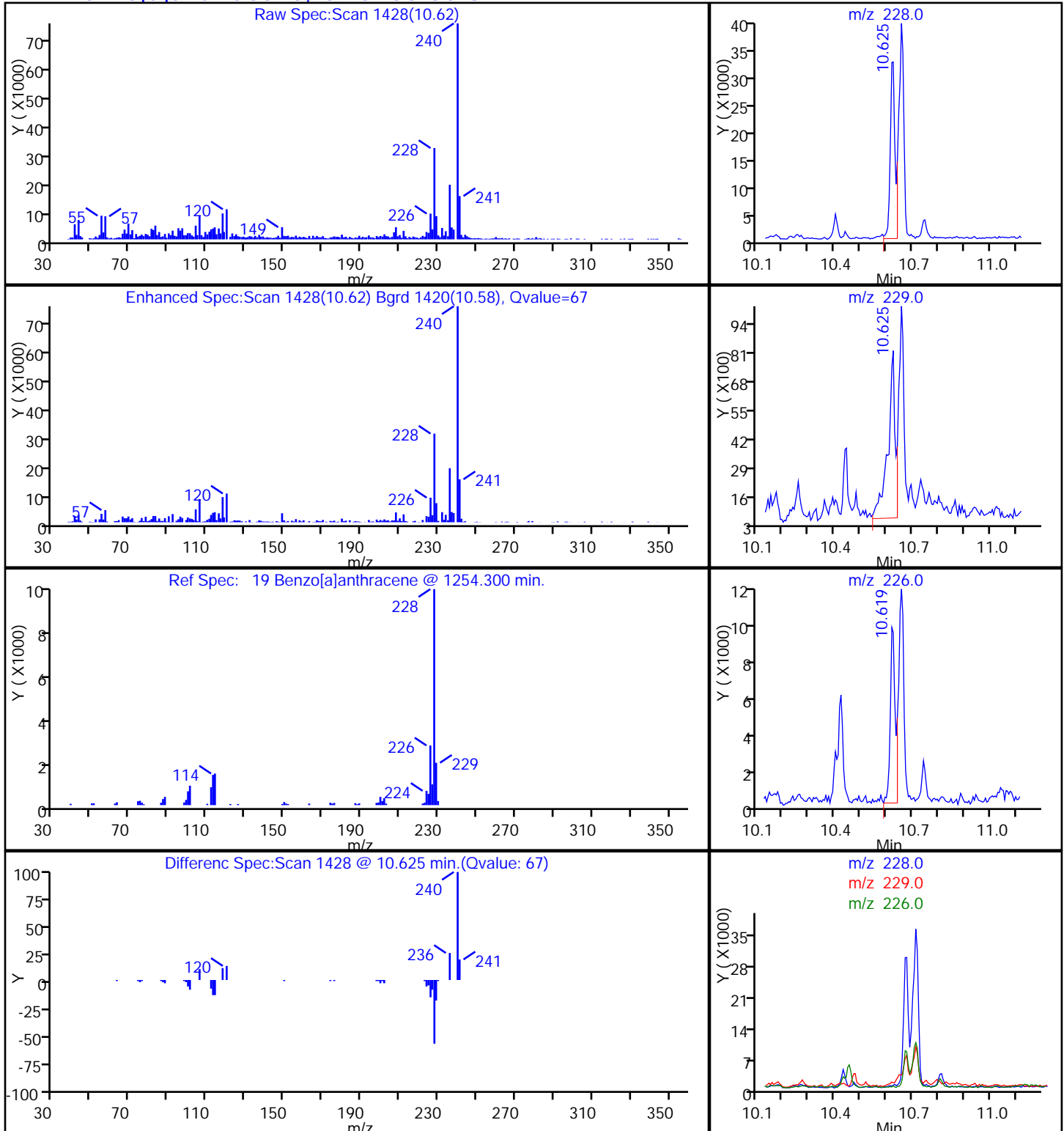
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

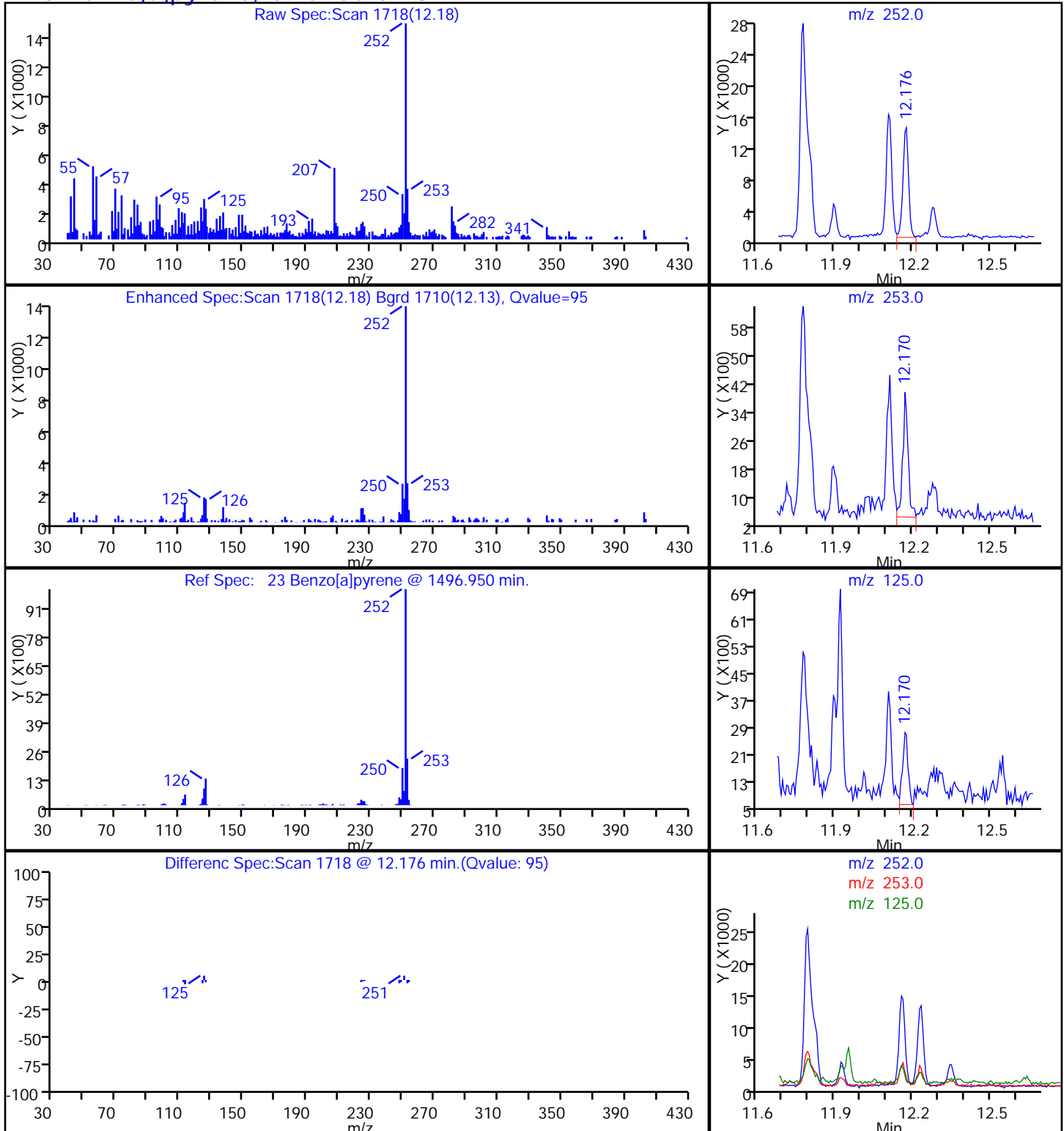
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

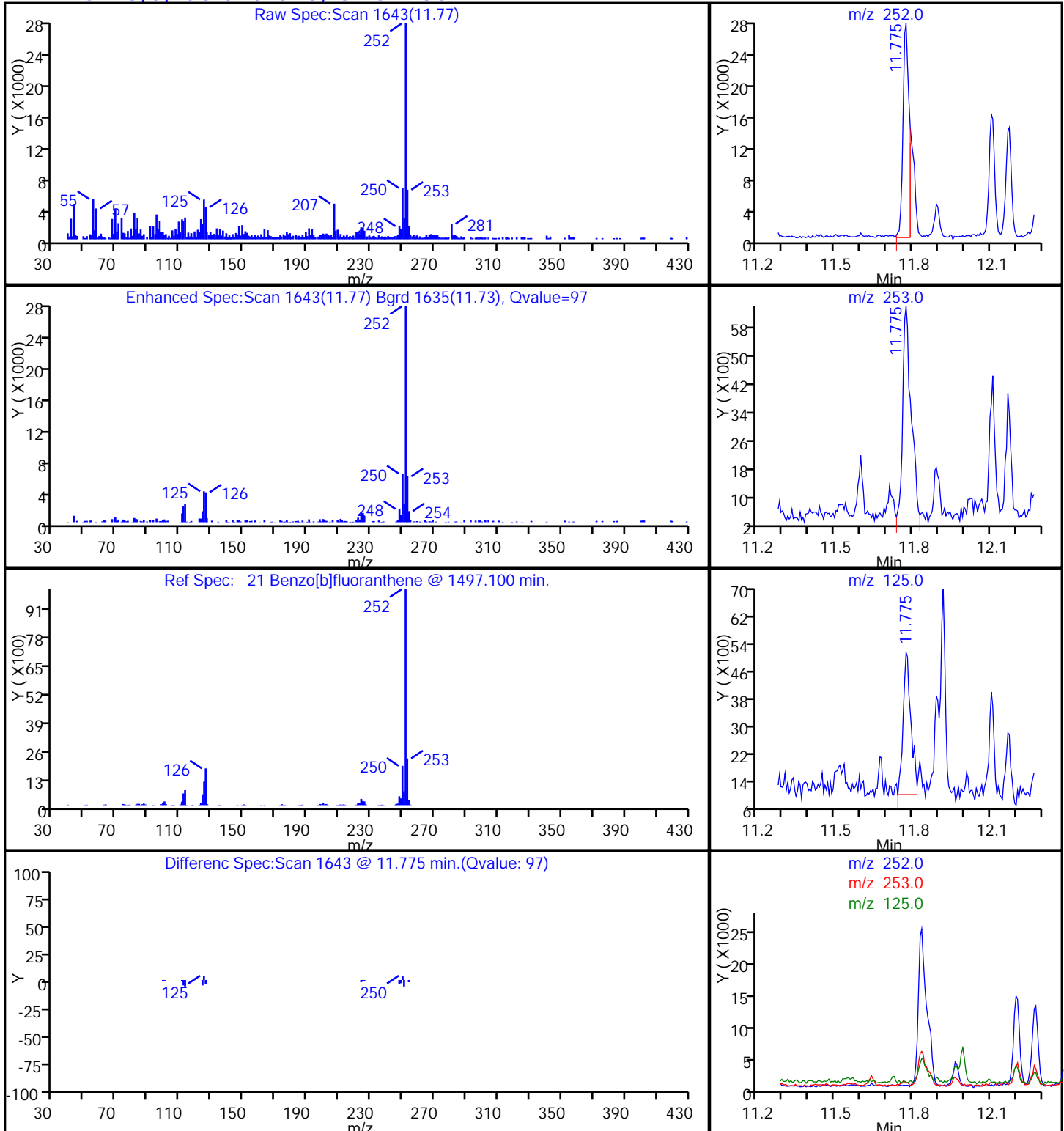
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

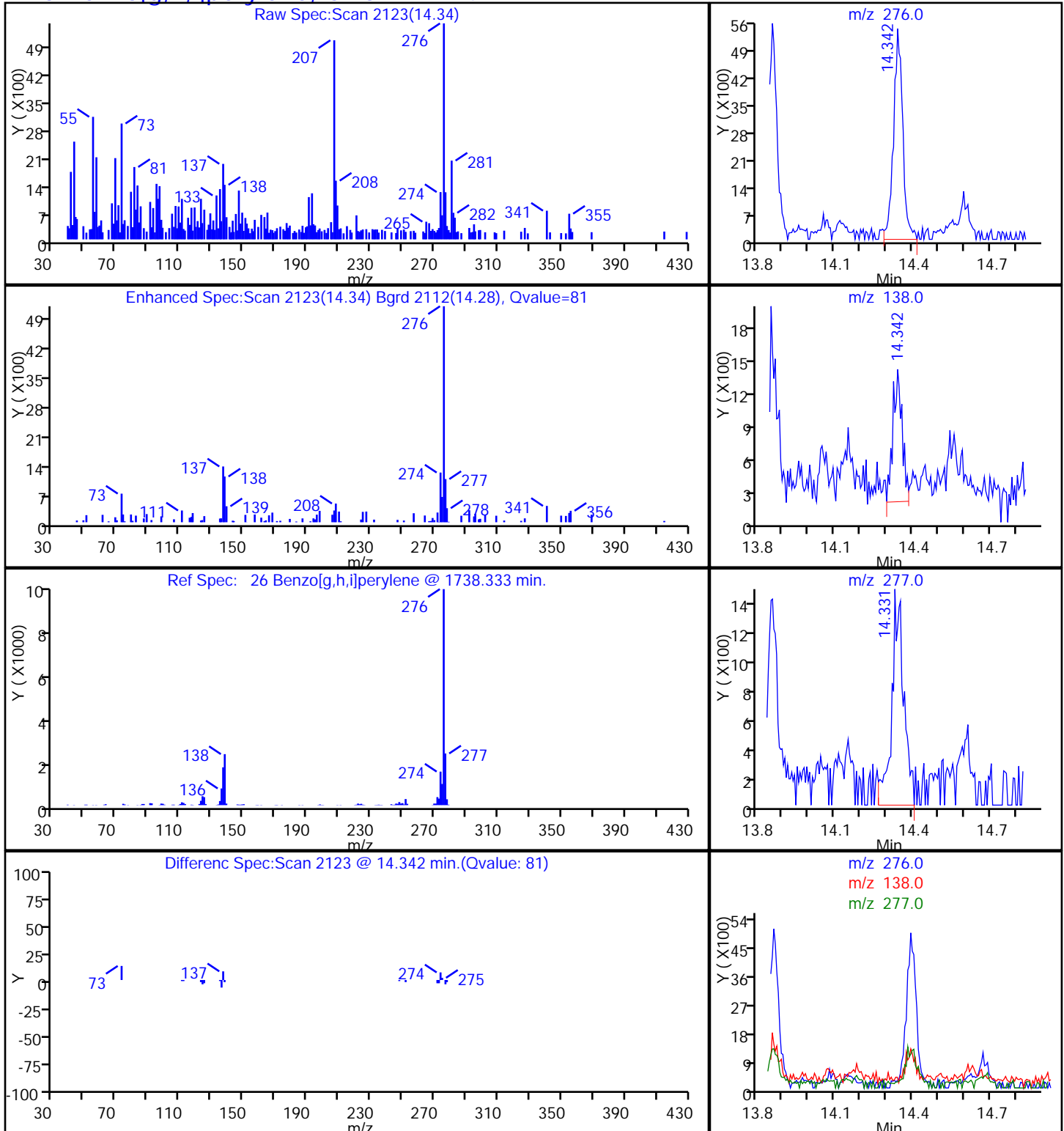
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

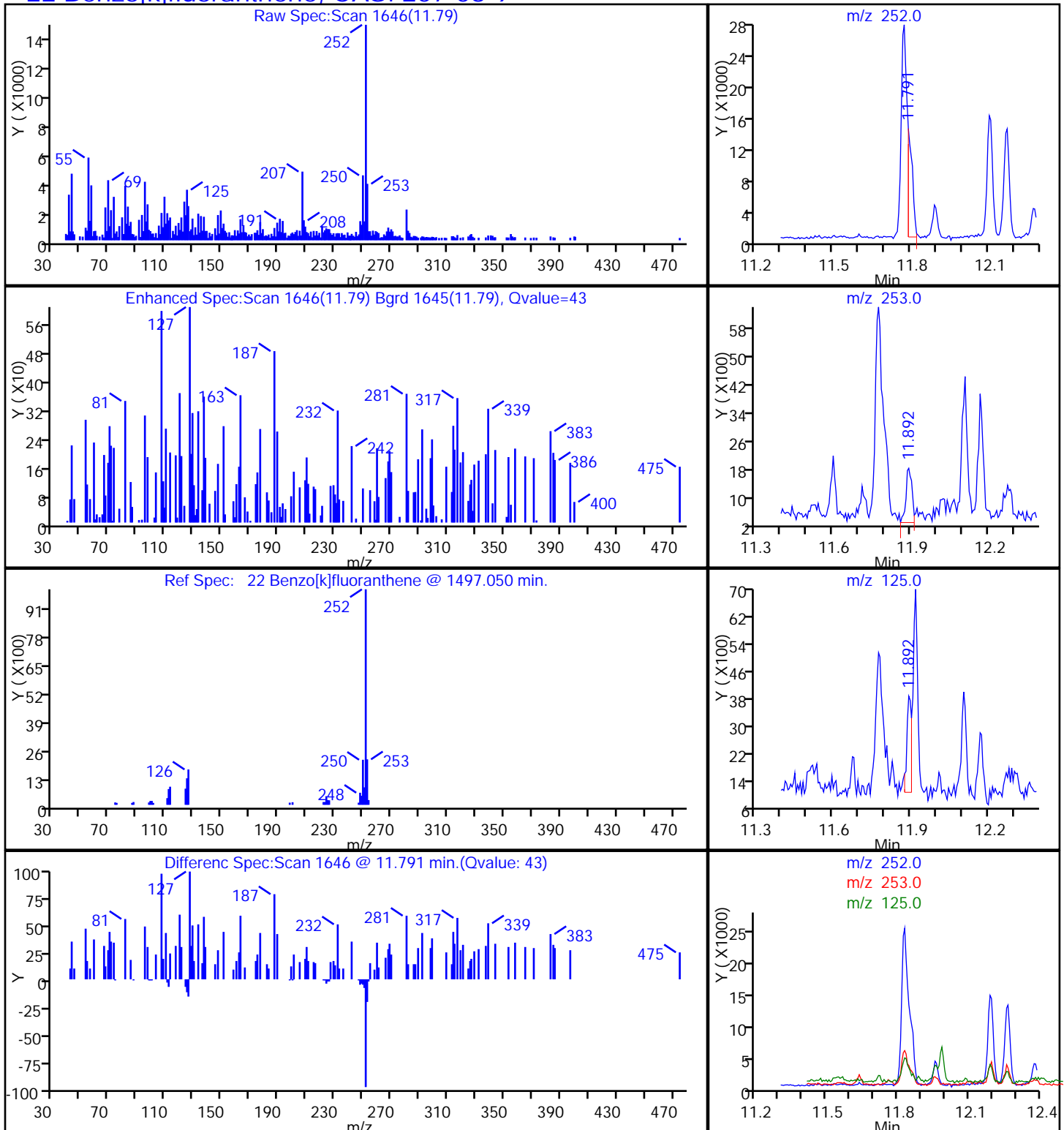
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

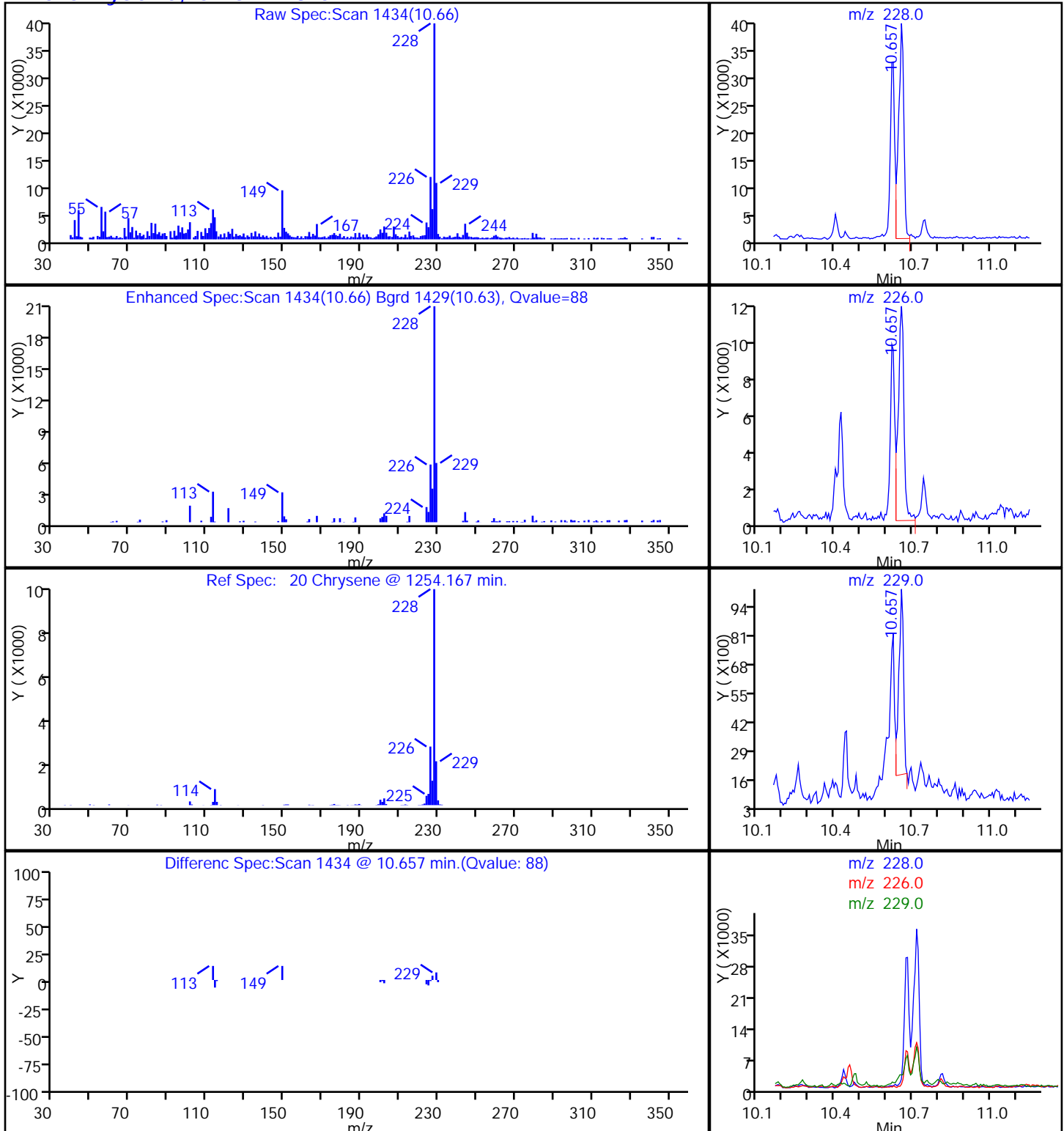
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

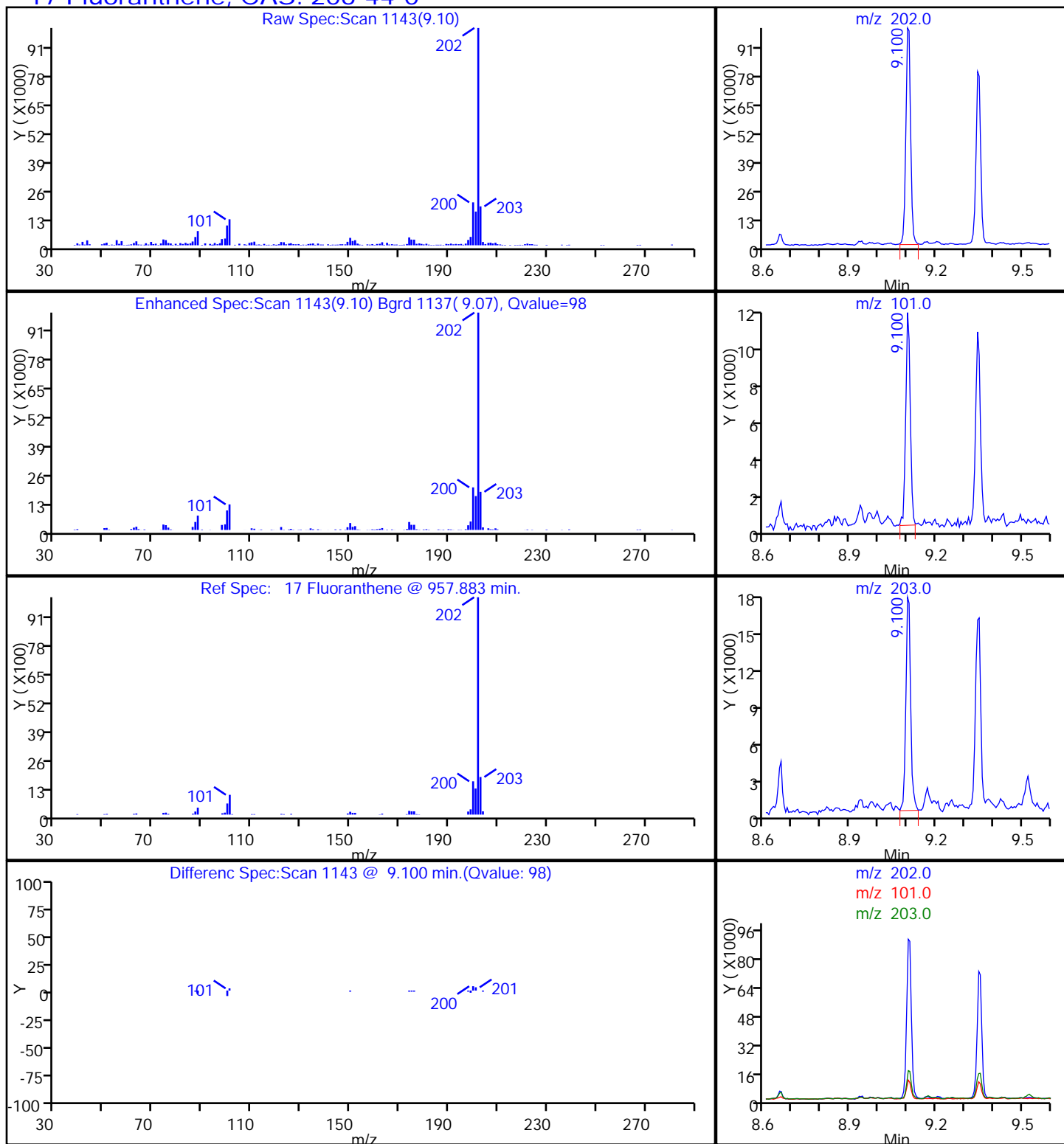
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

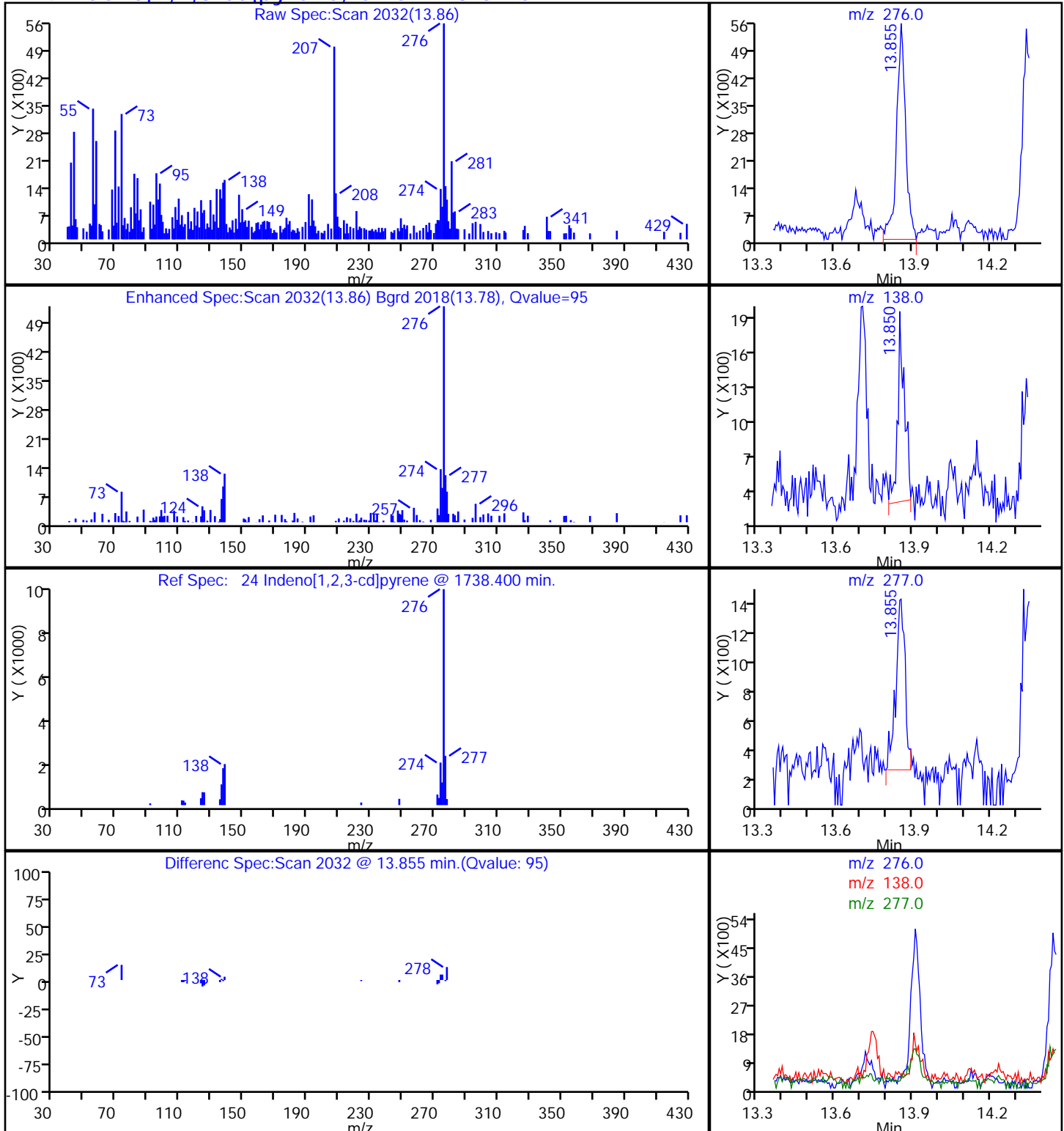
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

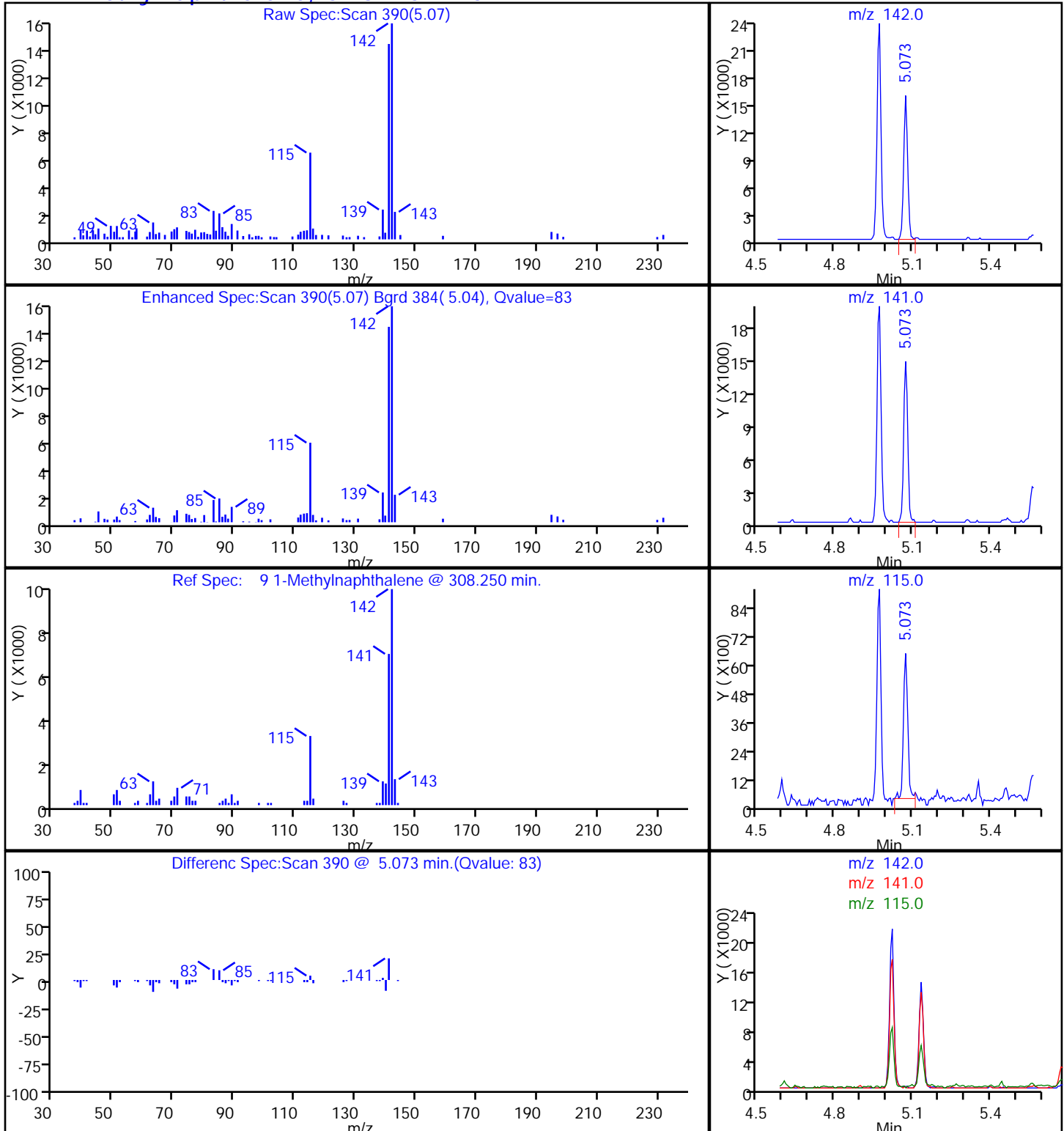
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

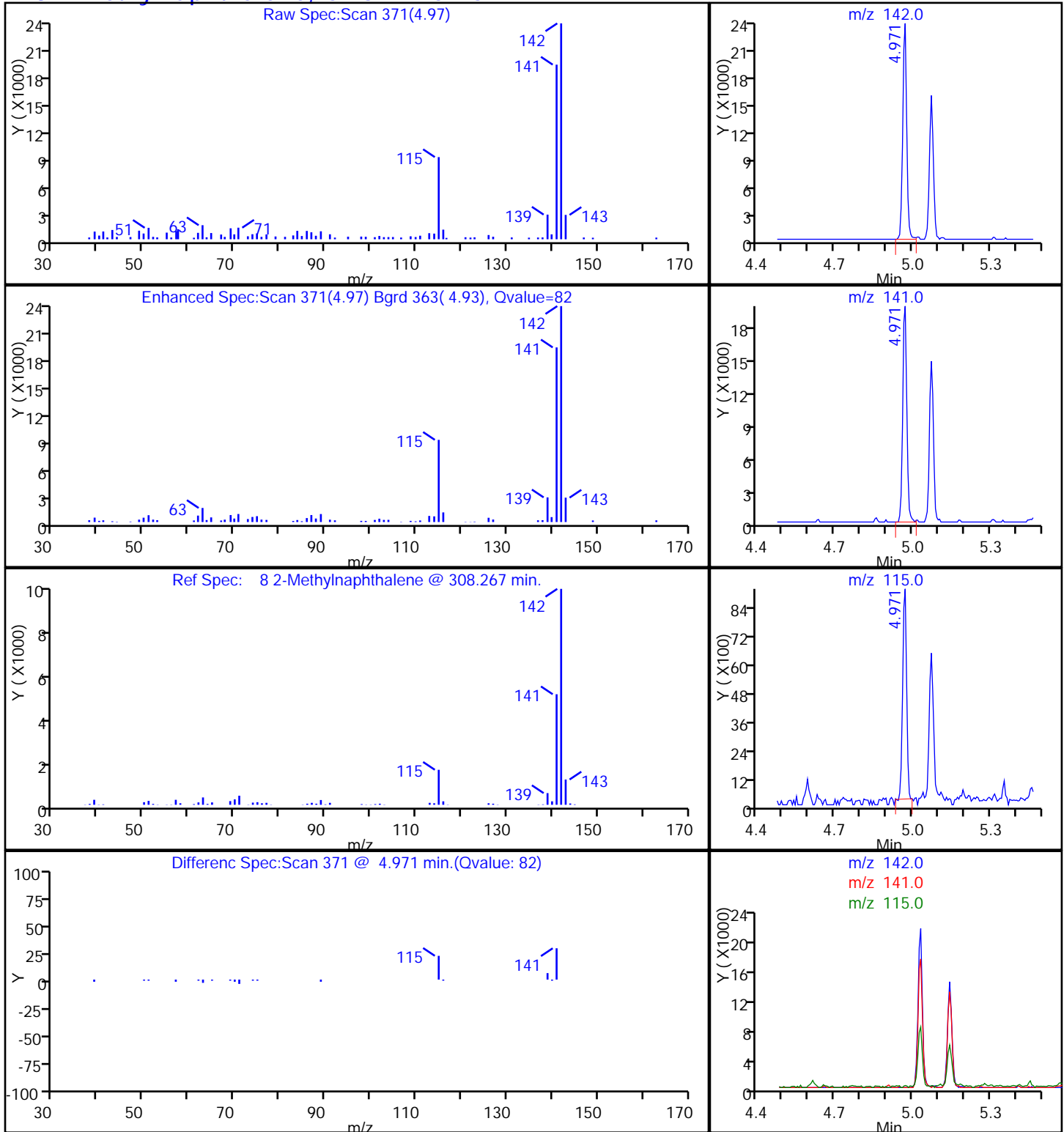
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

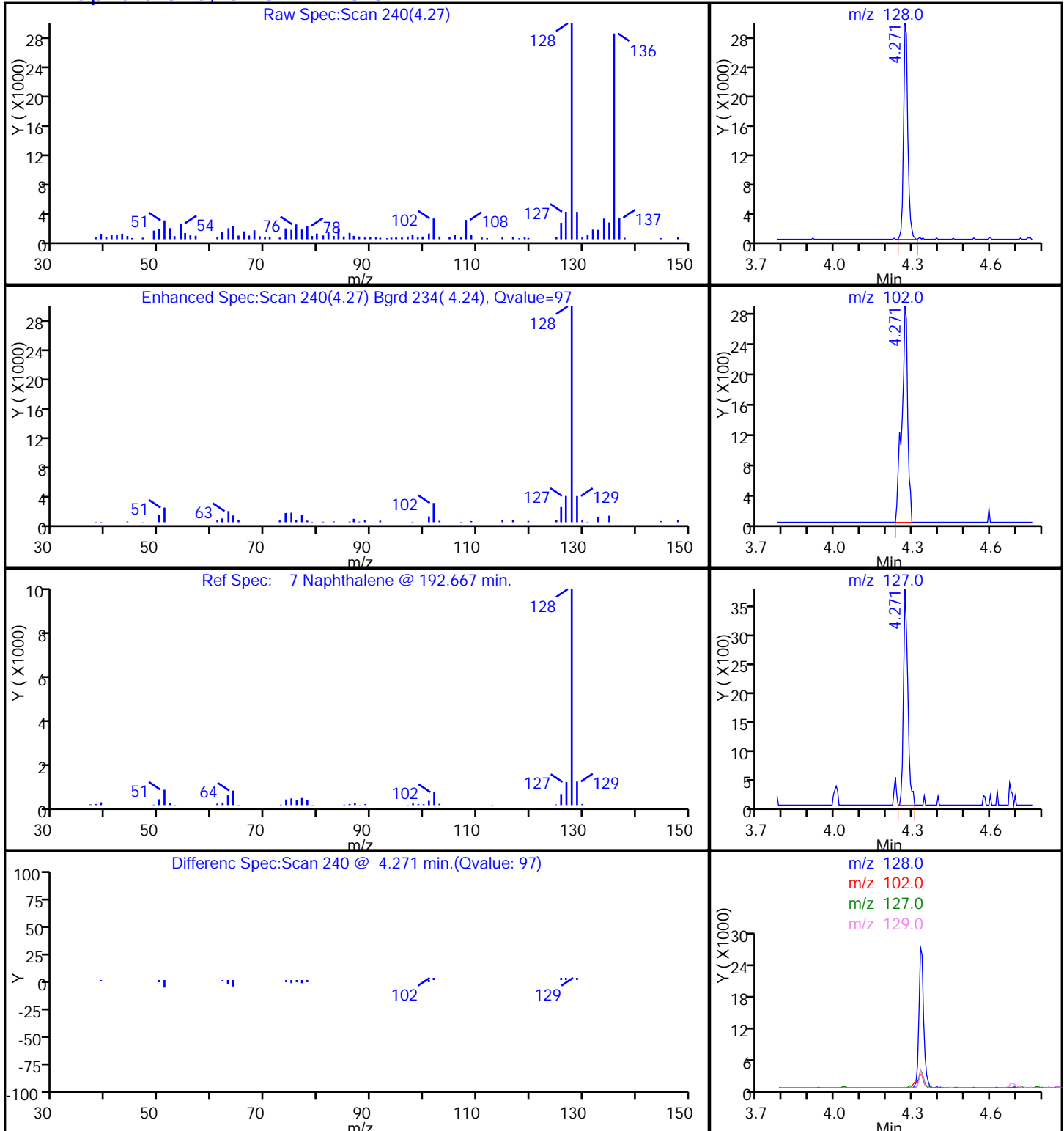
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

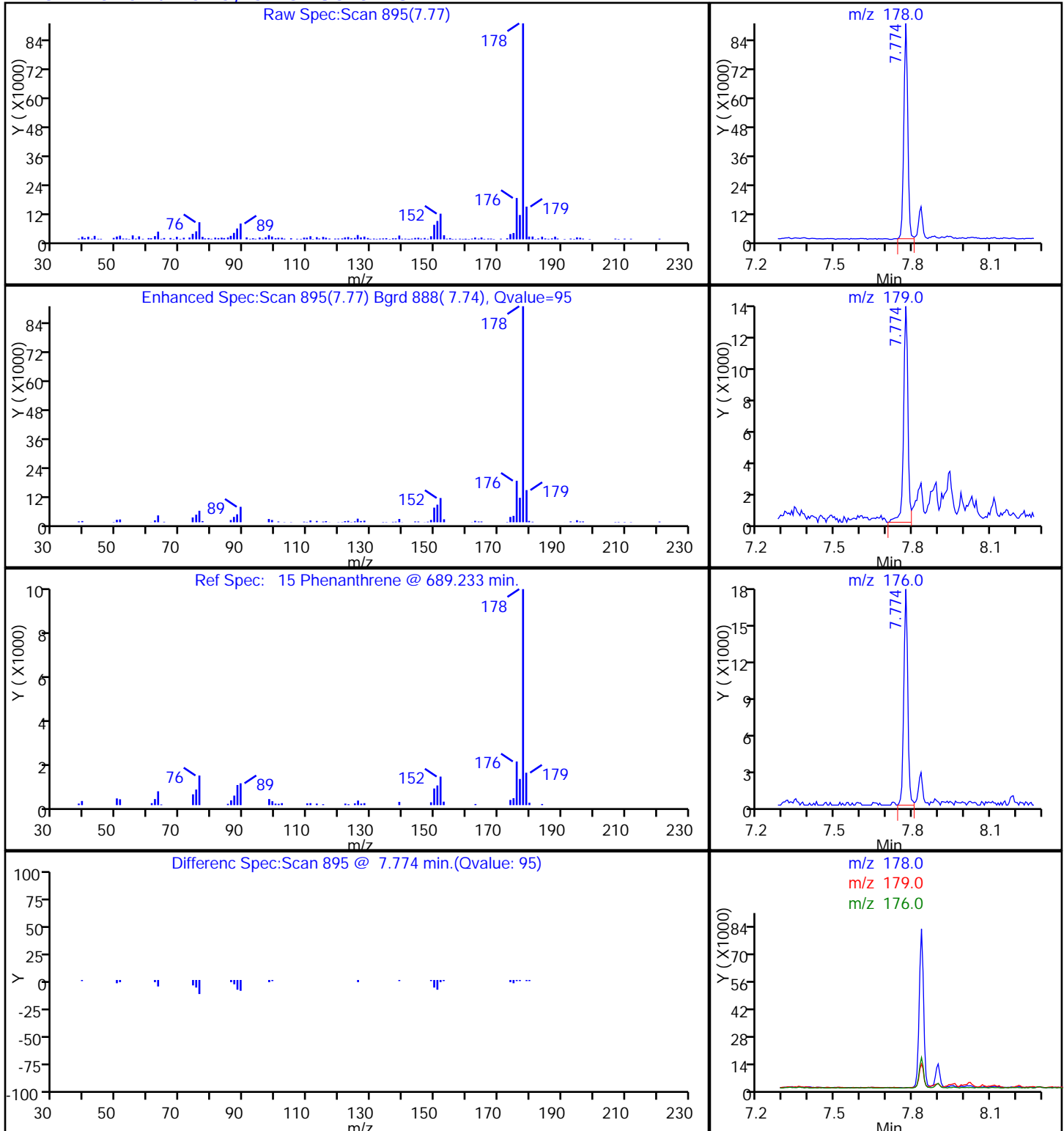
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D

Injection Date: 25-Aug-2014 15:12:30

Instrument ID: CMSY

Lims ID: 680-104534-A-2-A

Lab Sample ID: 680-104534-2

Client ID: CV0004B-CS4"

Operator ID: RM

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

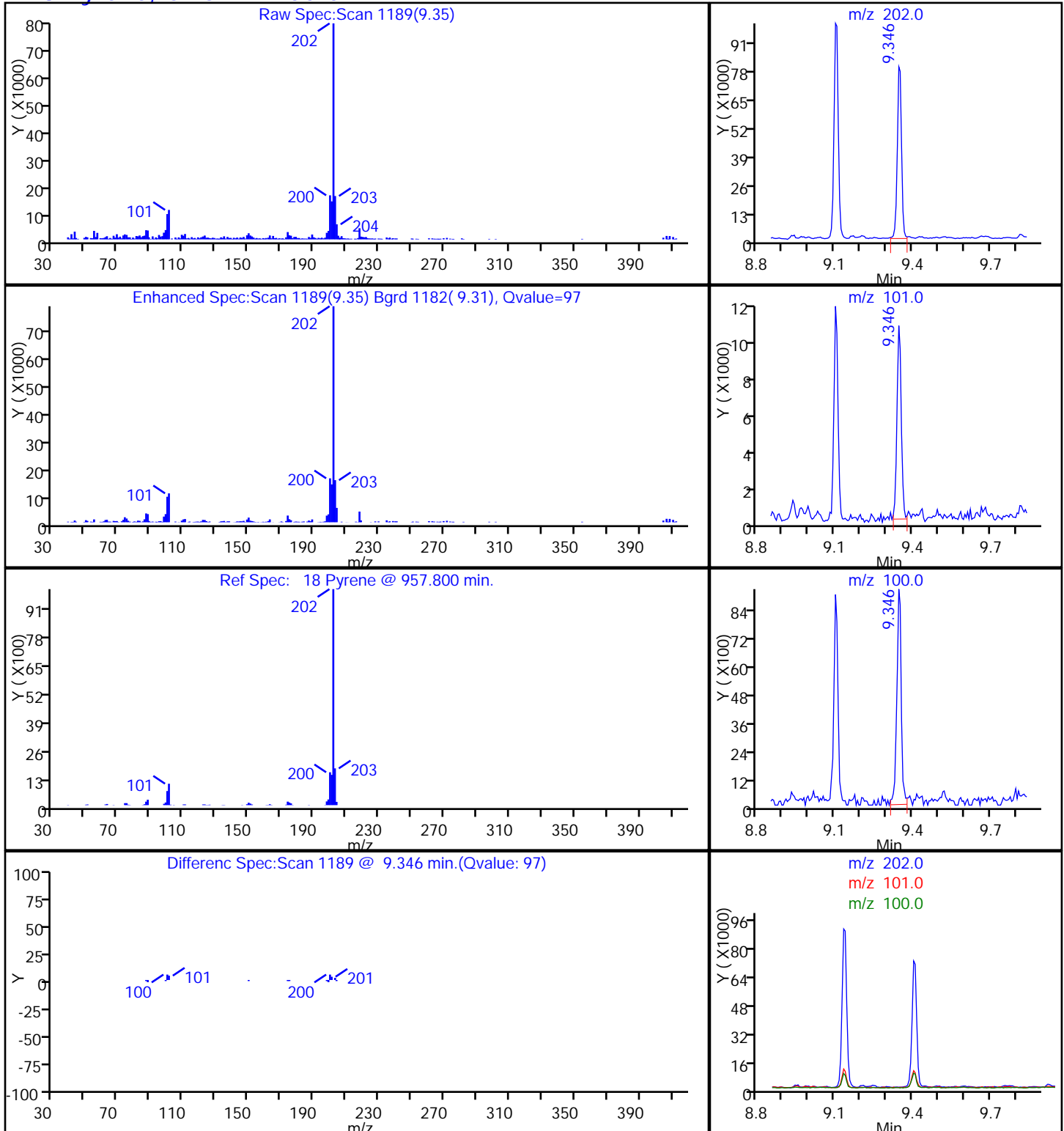
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



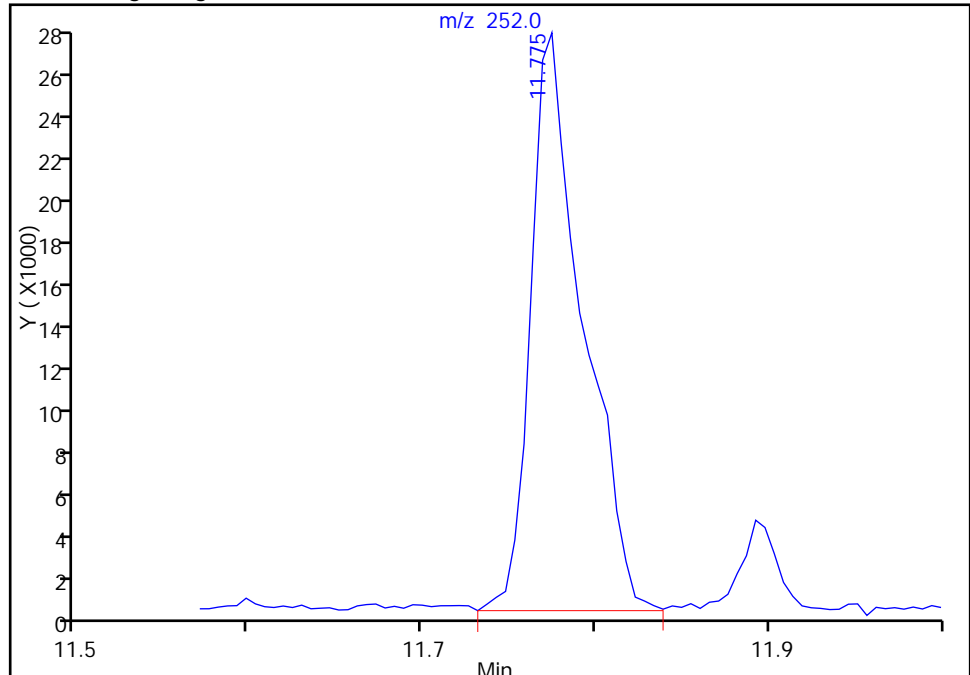
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D		
Injection Date:	25-Aug-2014 15:12:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-2-A	Lab Sample ID:	680-104534-2
Client ID:	CV0004B-CS4"		
Operator ID:	RM	ALS Bottle#:	10
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	10

21 Benzo[b]fluoranthene, CAS: 205-99-2

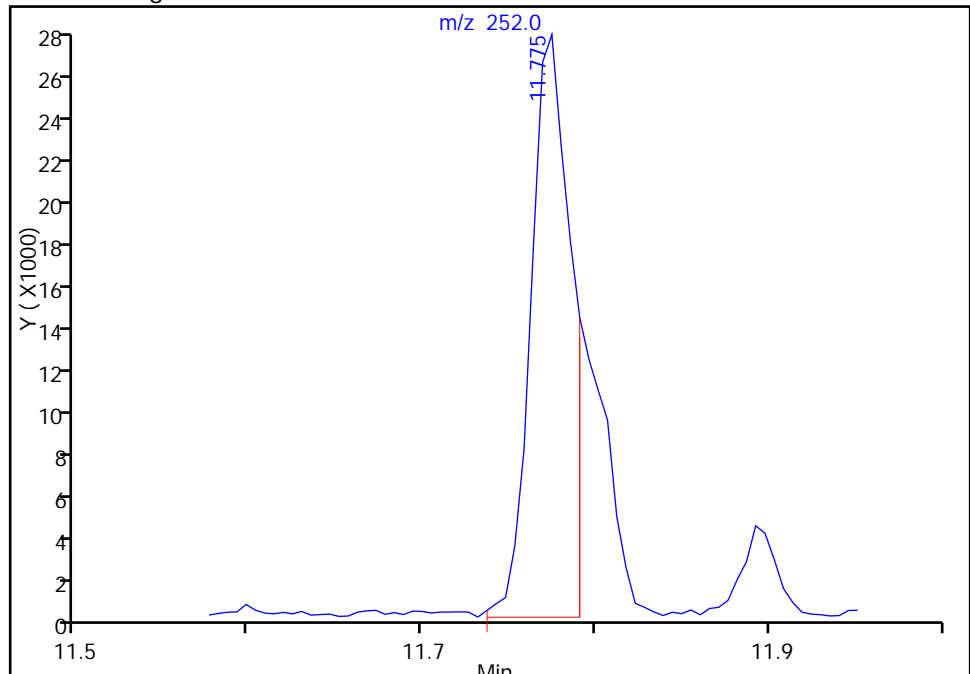
RT: 11.77
Response: 57482
Amount: 1.160438

Processing Integration Results



RT: 11.77
Response: 44466
Amount: 0.897673

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:41:45
Audit Action: Manually Integrated
Audit Reason: Split Peak

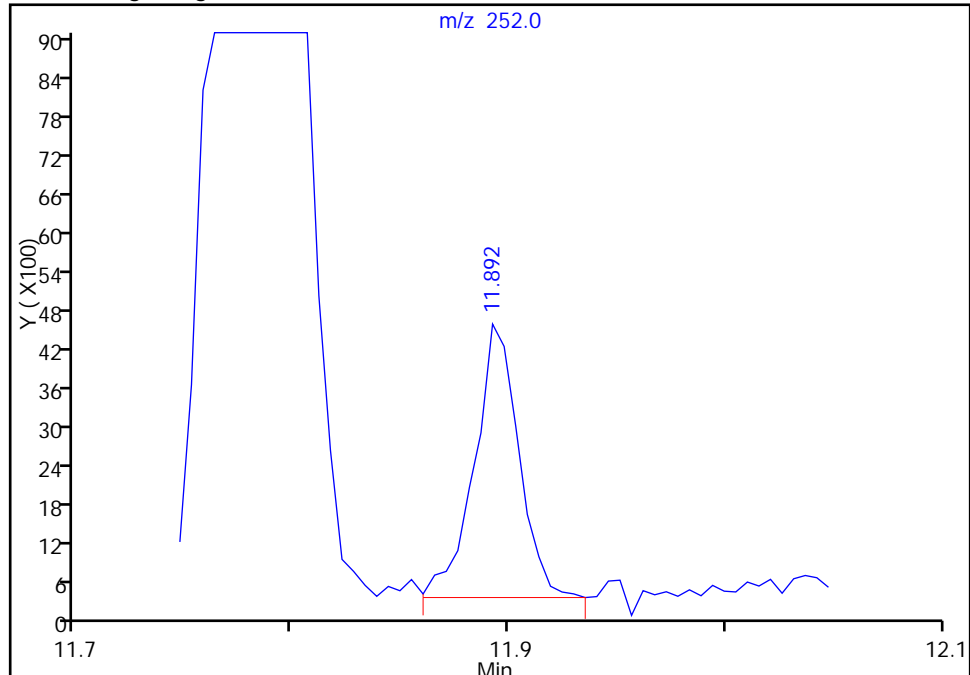
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2510.D		
Injection Date:	25-Aug-2014 15:12:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-2-A	Lab Sample ID:	680-104534-2
Client ID:	CV0004B-CS4"		
Operator ID:	RM	ALS Bottle#:	10
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	10

22 Benzo[k]fluoranthene, CAS: 207-08-9

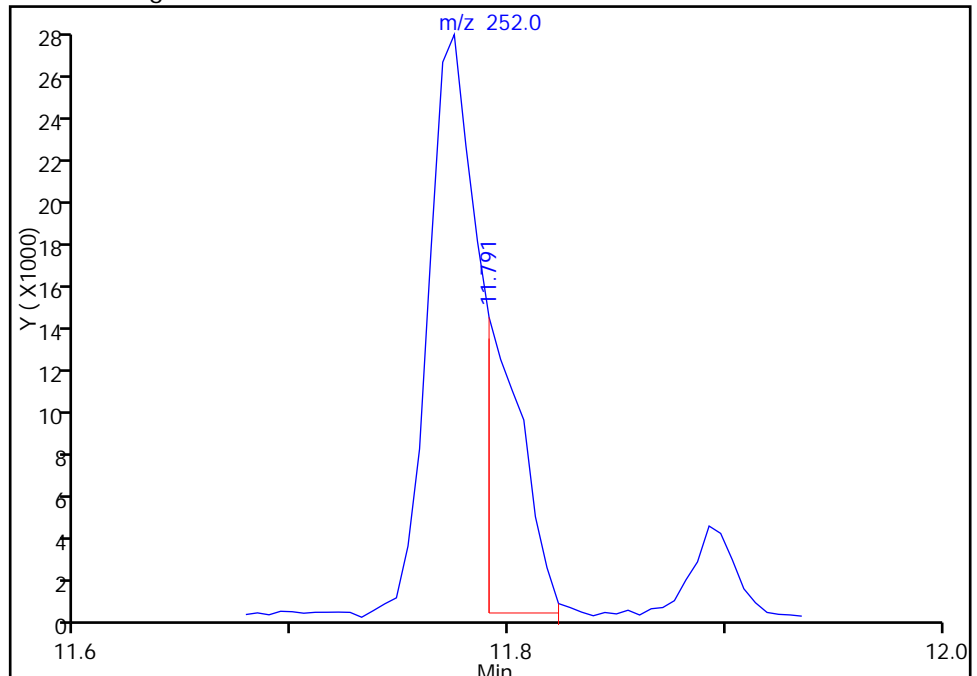
RT: 11.89
Response: 6061
Amount: 0.124810

Processing Integration Results



RT: 11.79
Response: 16897
Amount: 0.347947

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:41:45
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0163A-CS4"</u>	Lab Sample ID: <u>680-104534-3</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2511.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 16:20</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/25/2014 15:34</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	83	U	83	41
208-96-8	Acenaphthylene	83	U	83	41
120-12-7	Anthracene	83	U	83	41
56-55-3	Benzo[a]anthracene	170		83	41
50-32-8	Benzo[a]pyrene	170		83	15
205-99-2	Benzo[b]fluoranthene	280		83	41
191-24-2	Benzo[g,h,i]perylene	160		83	41
207-08-9	Benzo[k]fluoranthene	130		83	25
218-01-9	Chrysene	220		83	41
53-70-3	Dibenz(a,h)anthracene	47	J	83	41
206-44-0	Fluoranthene	260		83	41
86-73-7	Fluorene	83	U	83	41
193-39-5	Indeno[1,2,3-cd]pyrene	82	J	83	41
90-12-0	1-Methylnaphthalene	99		83	38
91-57-6	2-Methylnaphthalene	110		83	41
91-20-3	Naphthalene	76	J	83	41
85-01-8	Phenanthrene	200		83	30
129-00-0	Pyrene	270		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D
 Lims ID: 680-104534-A-3-A Lab Sample ID: 680-104534-3
 Client ID: CV0163A-CS4"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 15:34:30 ALS Bottle#: 11 Worklist Smp#: 11
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-3-A DL=10
 Misc. Info.: 680-0012210-011
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 10:53:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK025

First Level Reviewer: webbk

Date: 26-Aug-2014 08:44:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.255	4.249	0.006	99	342369	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	91	189035	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	288960	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	99	169549	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	98729	2.00	
7 Naphthalene	128	4.276	4.271	0.005	94	28976	0.1830	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	82	28410	0.2774	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	85	23689	0.2405	
15 Phenanthrene	178	7.774	7.774	0.000	97	65856	0.4737	
16 Anthracene	178	7.833	7.833	0.000	86	7551	0.0551	
17 Fluoranthene	202	9.106	9.106	0.000	98	83611	0.6179	
18 Pyrene	202	9.352	9.352	0.000	97	70938	0.6438	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	64	35630	0.4197	
20 Chrysene	228	10.657	10.662	-0.005	90	44316	0.5383	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	97	36616	0.6772	M
22 Benzo[k]fluoranthene	252	11.791	11.807	-0.016	47	16080	0.3034	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	94	18199	0.4142	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	91	11753	0.1988	
25 Dibenz(a,h)anthracene	278	13.882	13.887	-0.005	55	4055	0.1129	
26 Benzo[g,h,i]perylene	276	14.347	14.347	0.000	77	14344	0.3828	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Worklist Smp#: 11

Client ID: CV0163A-CS4"

Injection Vol: 2.0 ul

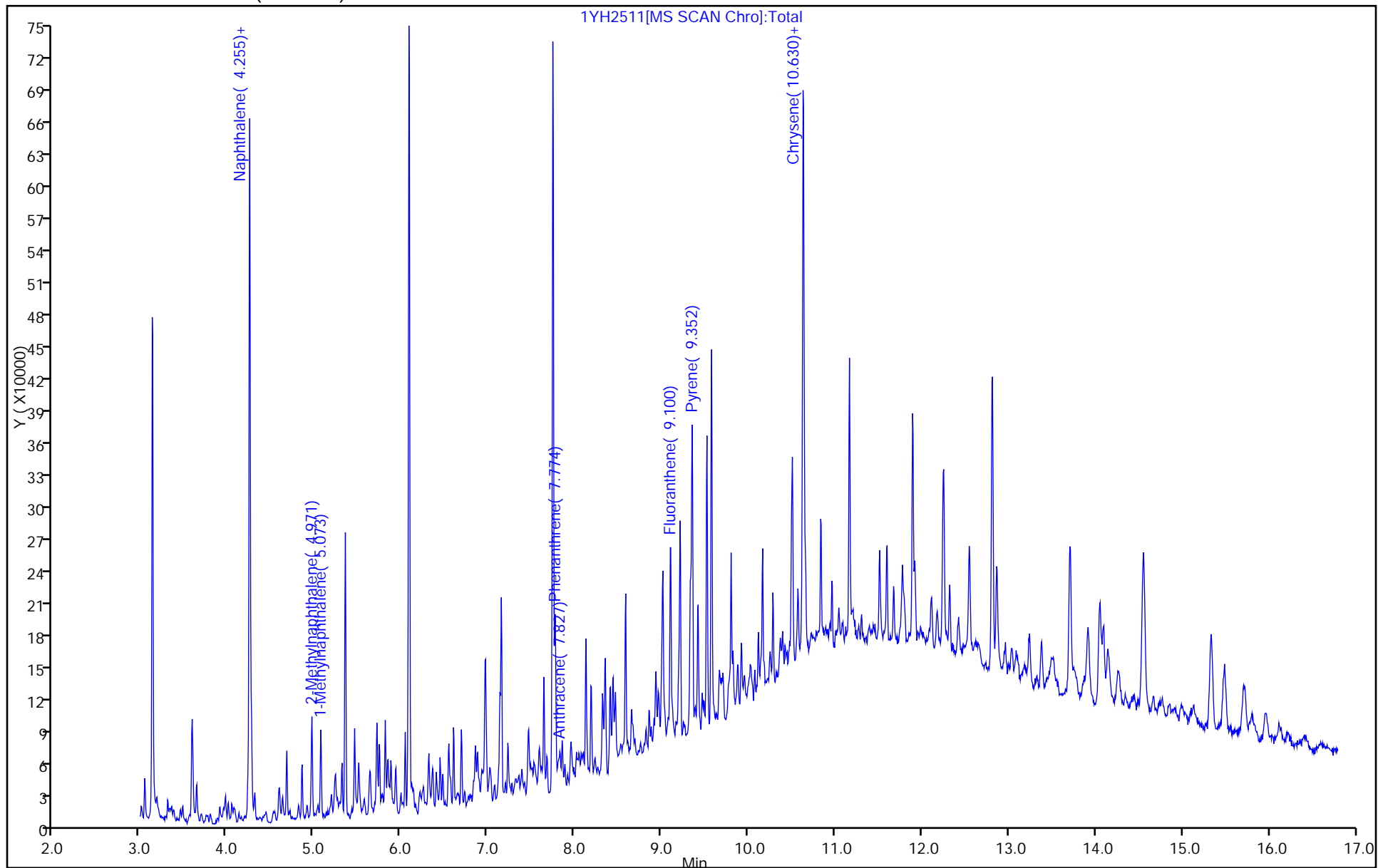
Dil. Factor: 10.0000

ALS Bottle#: 11

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

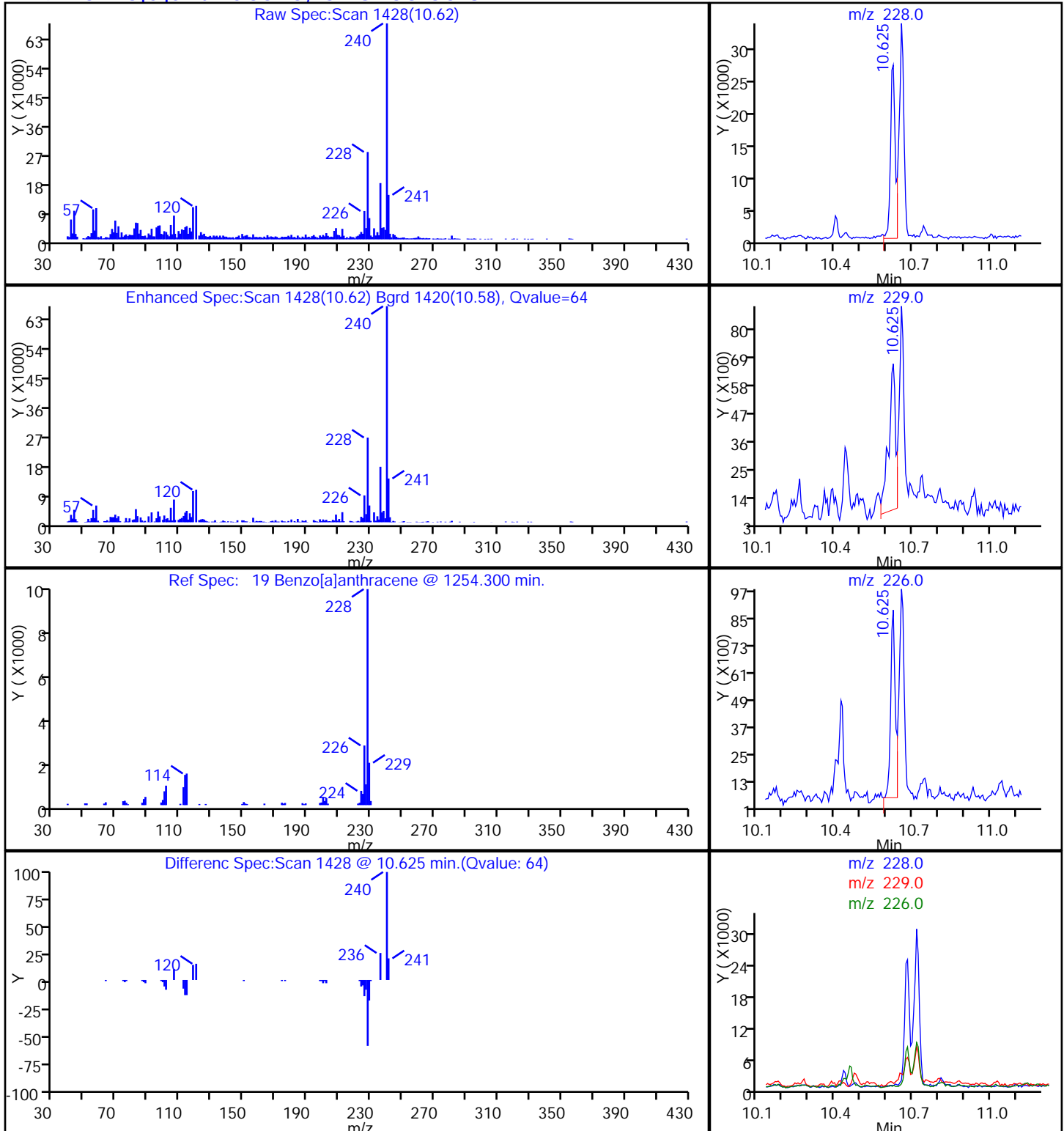
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

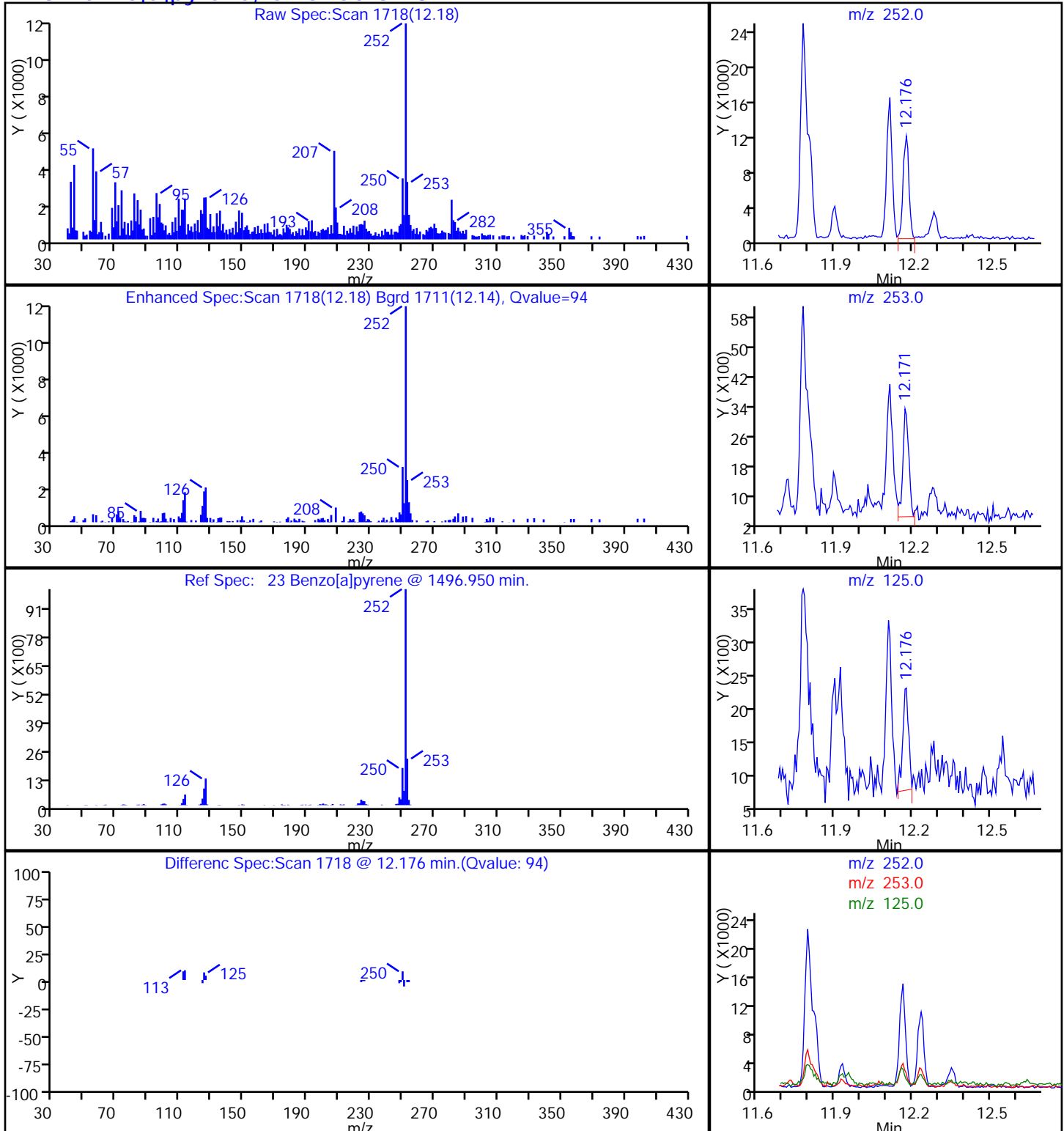
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

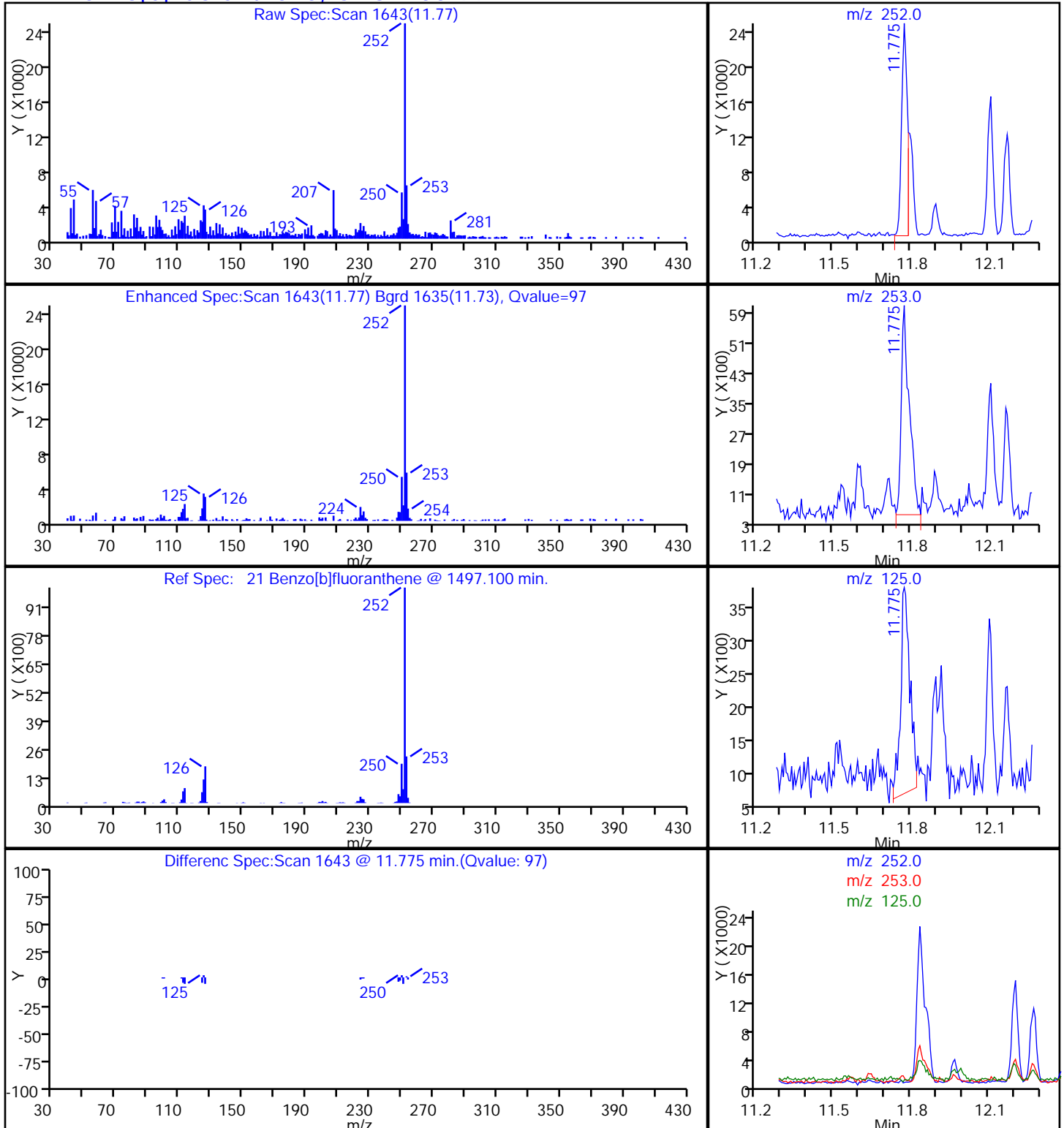
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

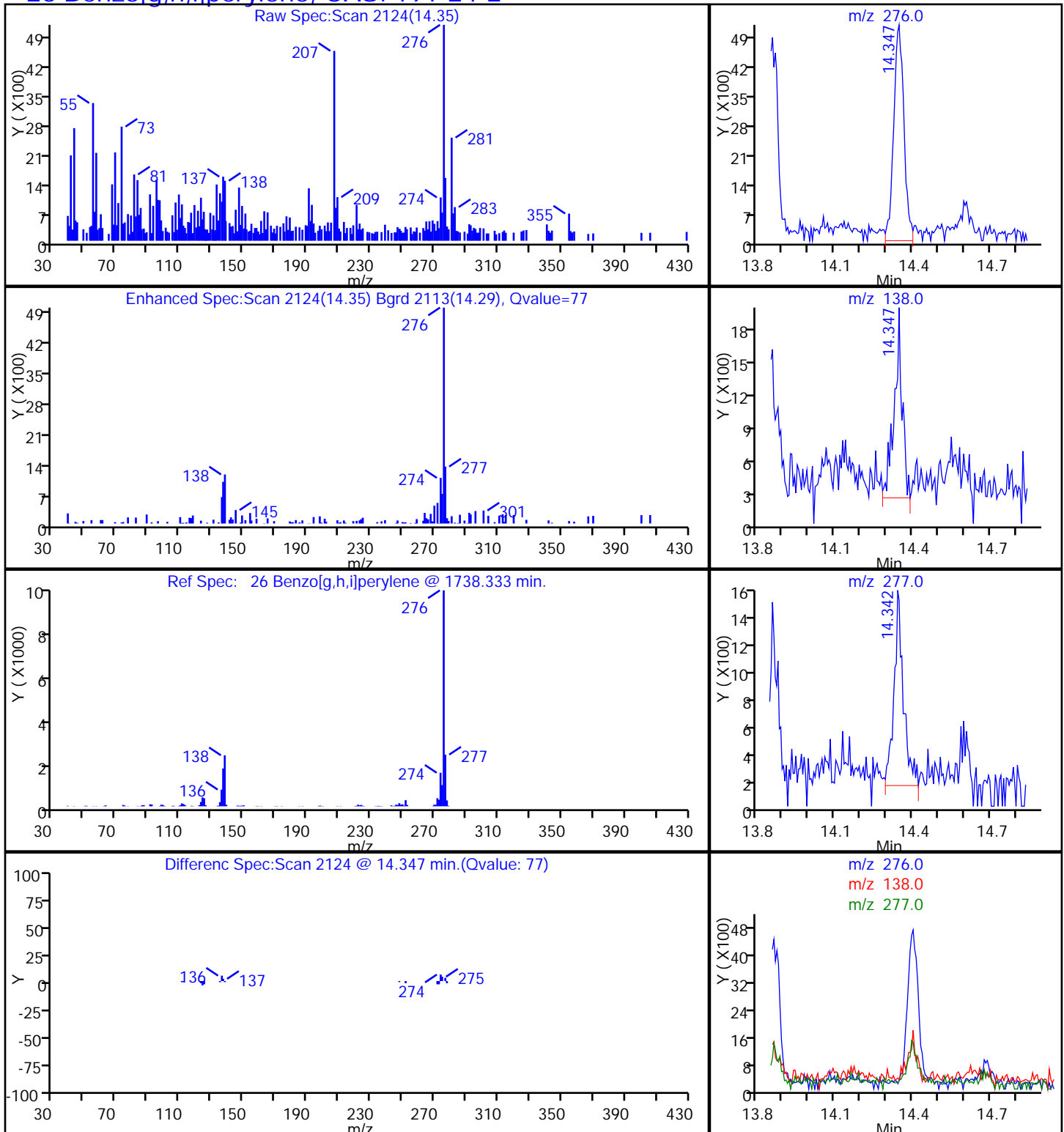
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

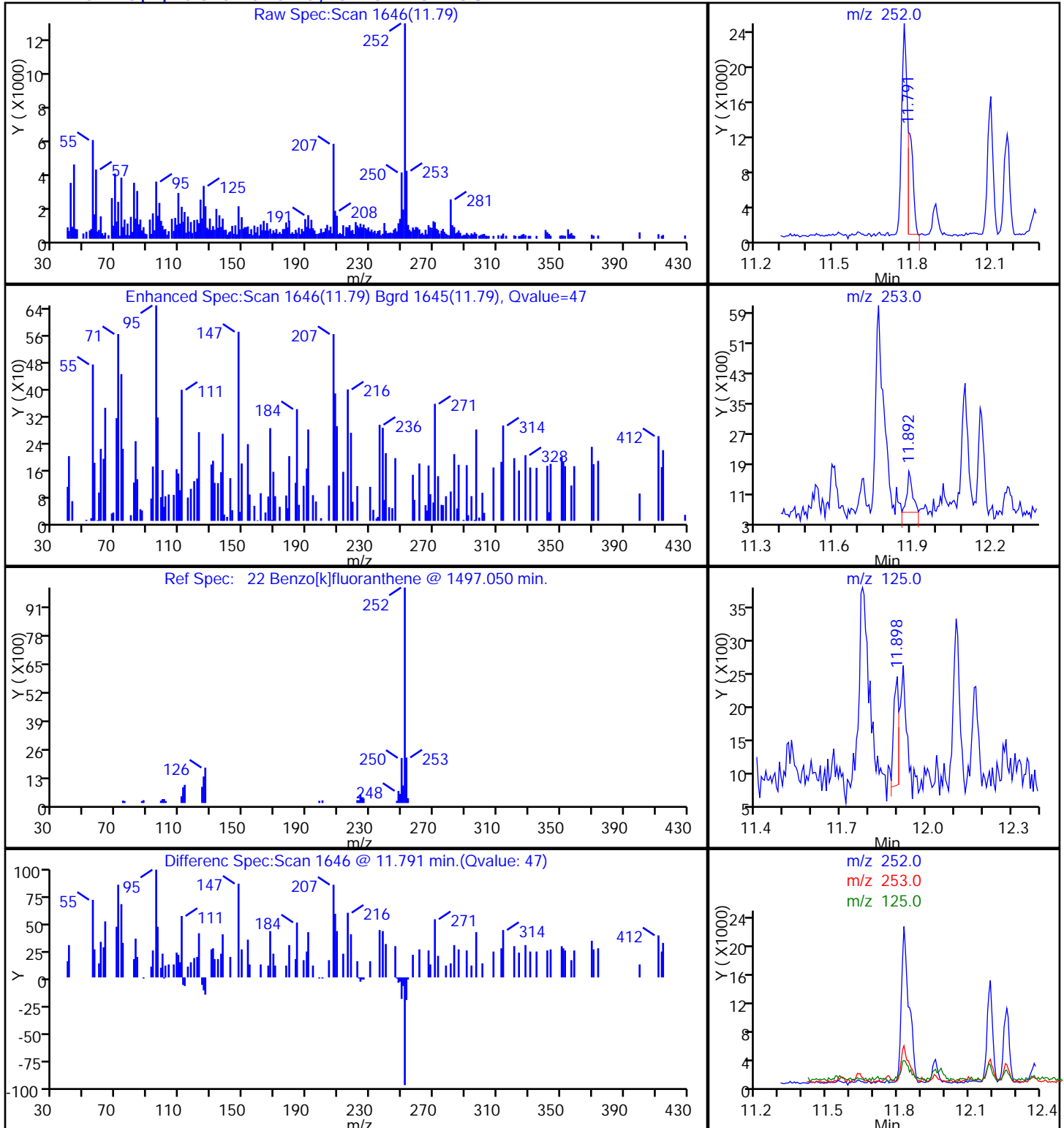
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

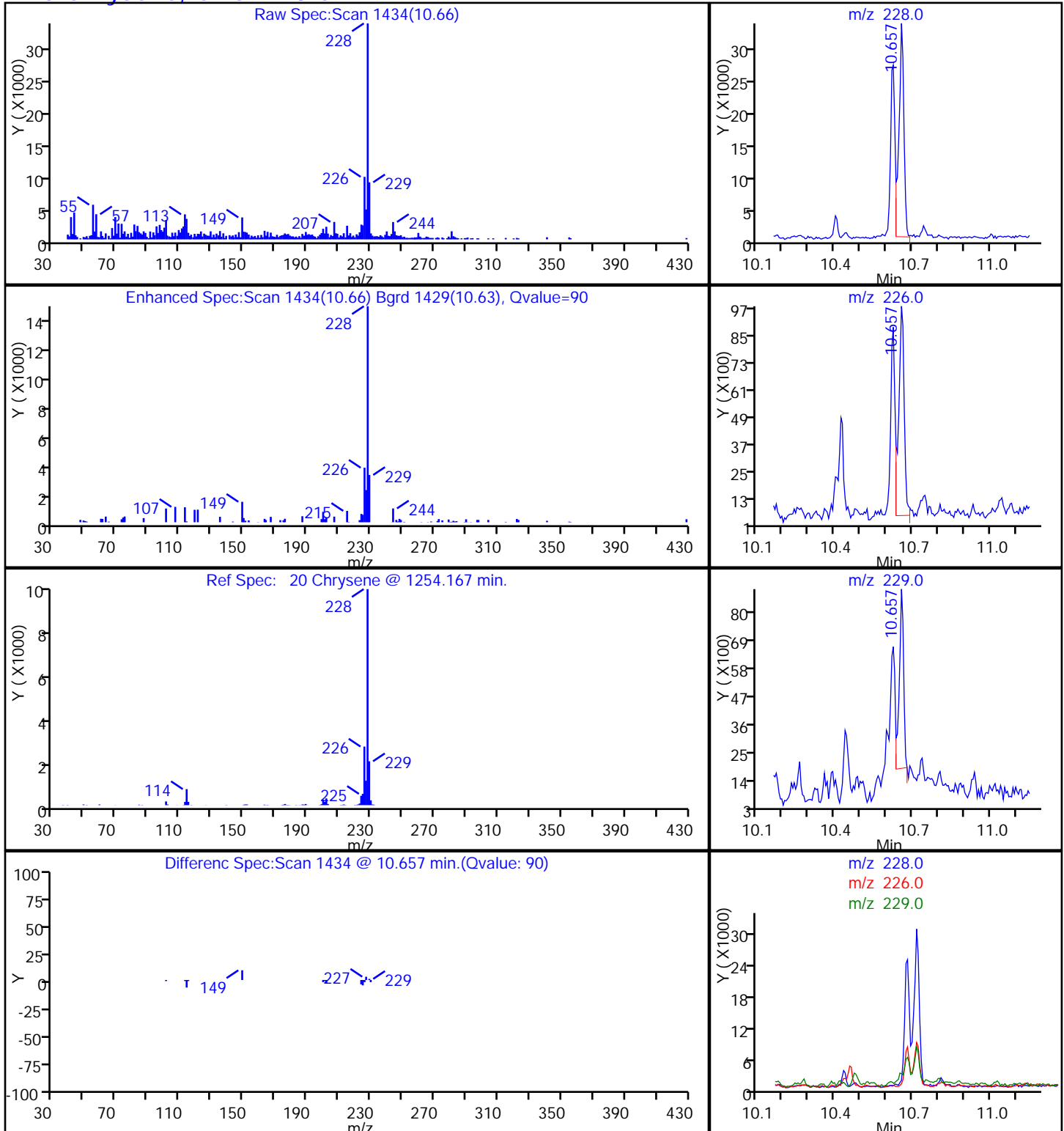
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

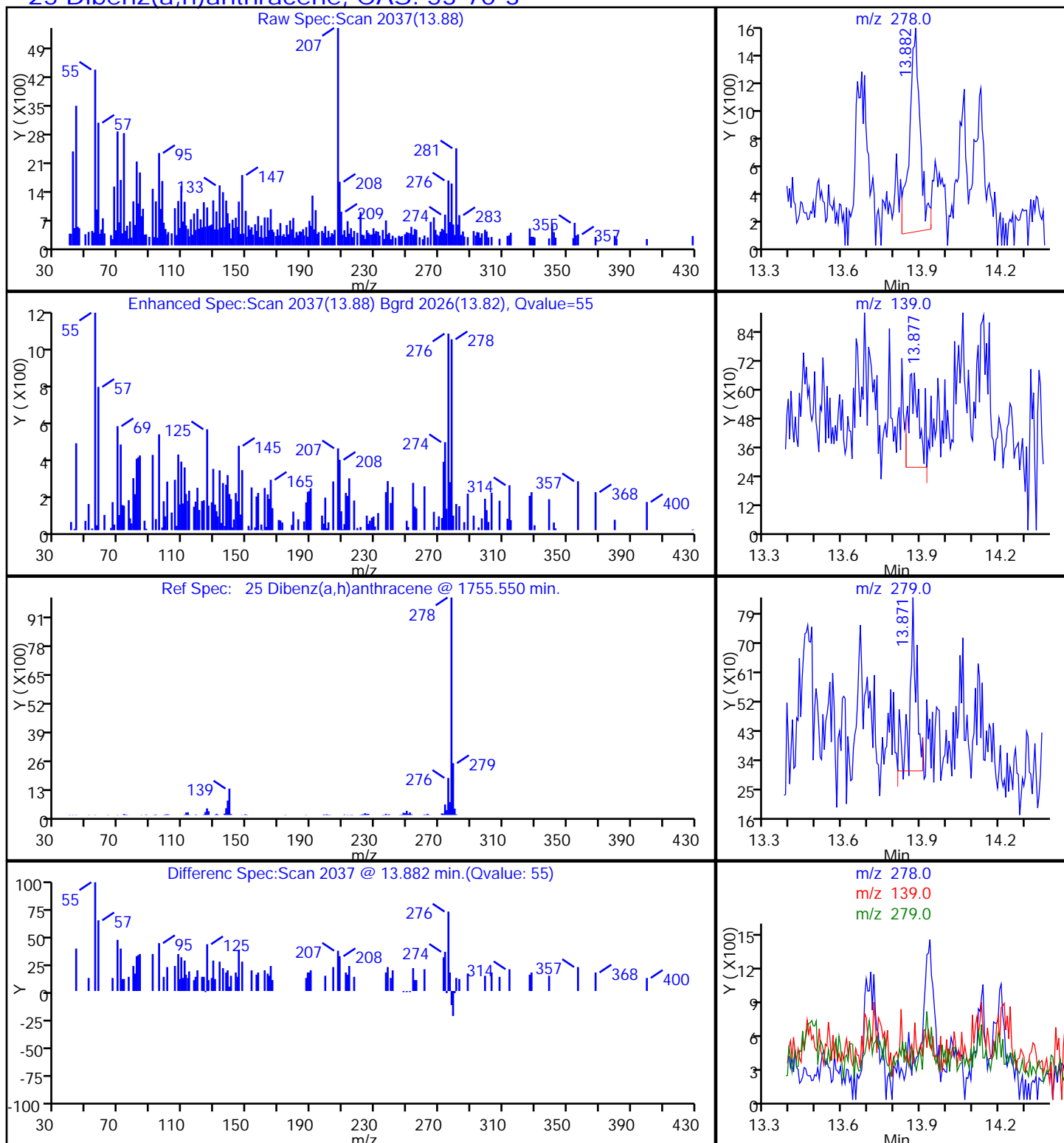
Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

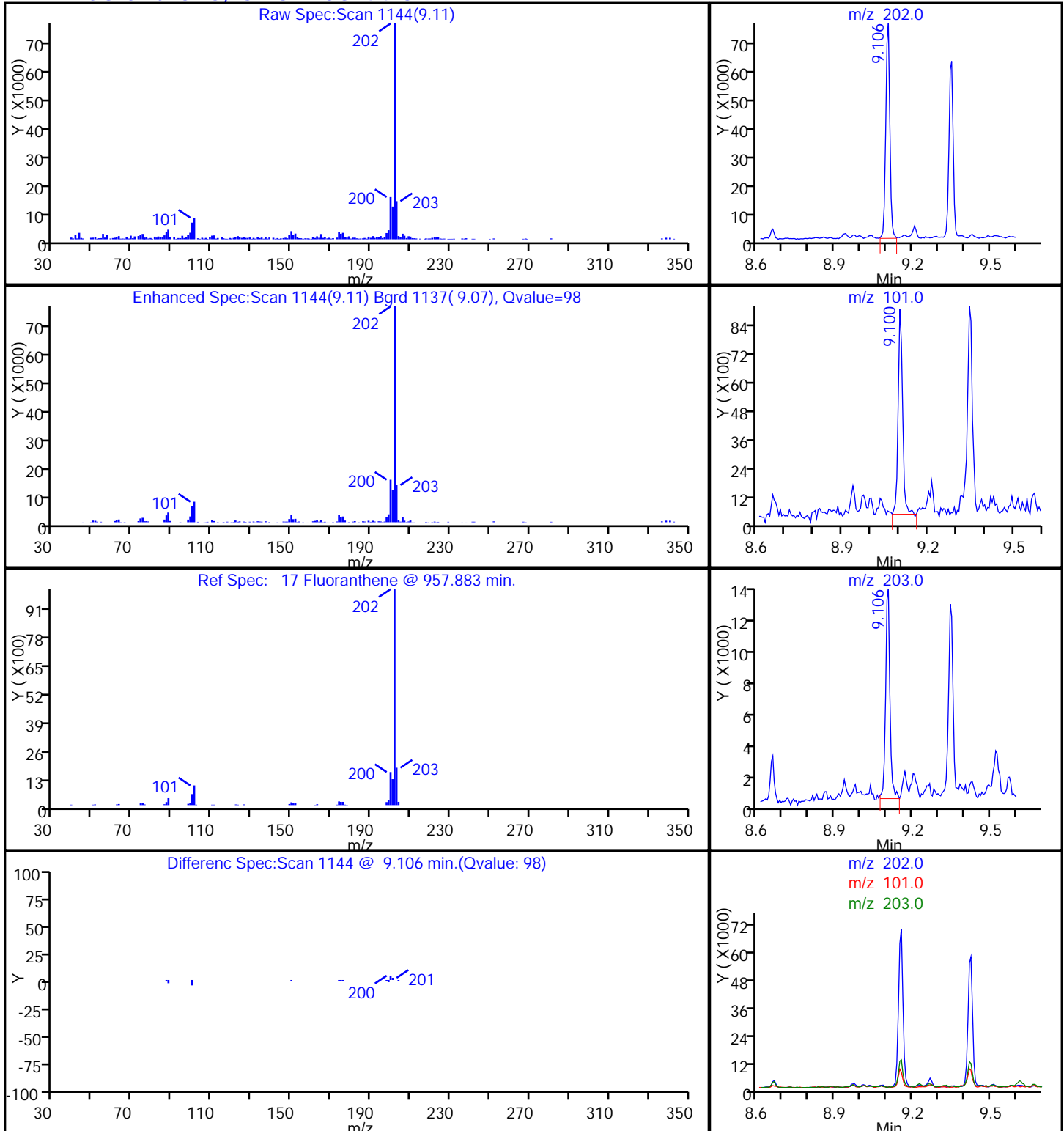
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

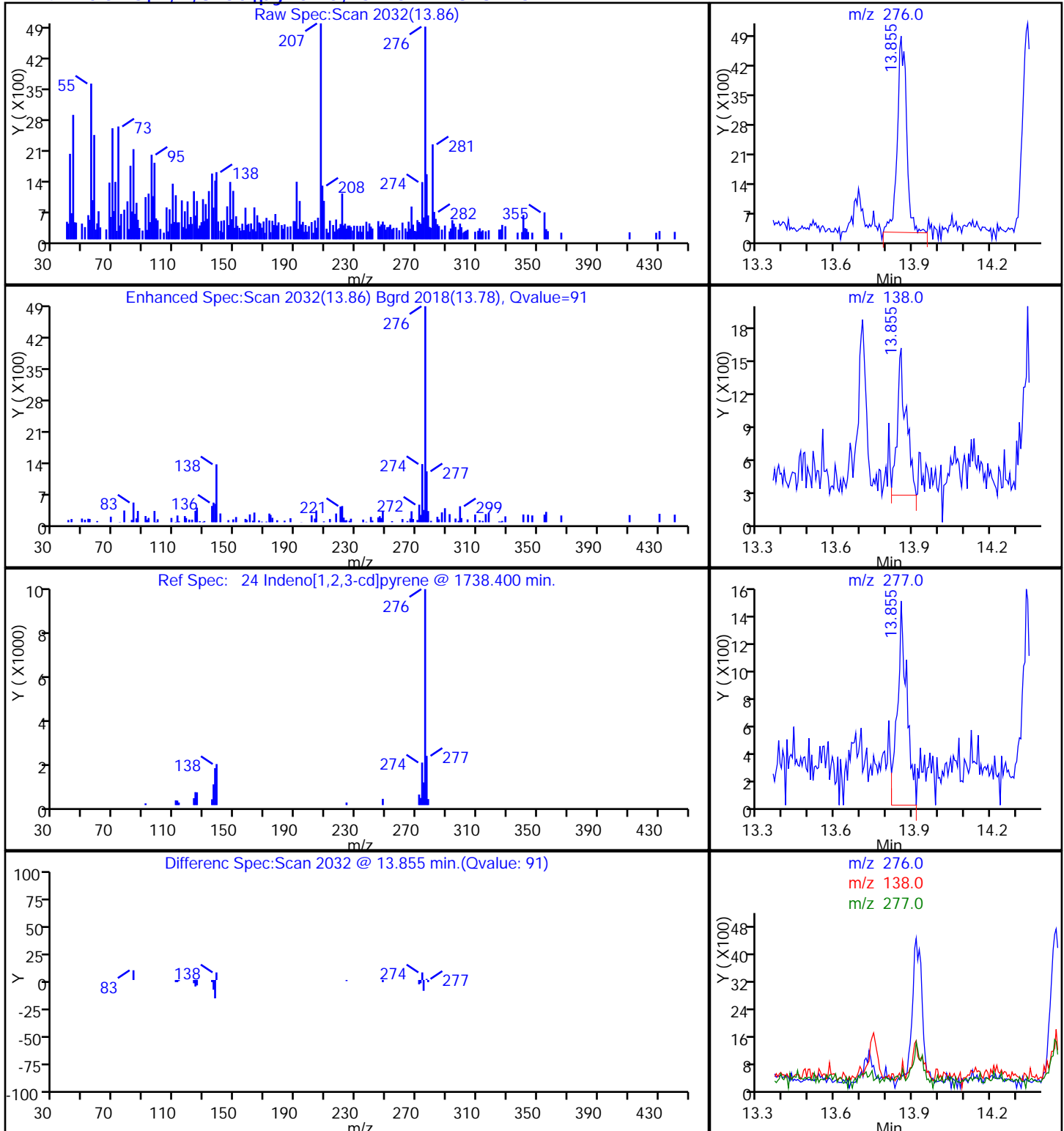
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

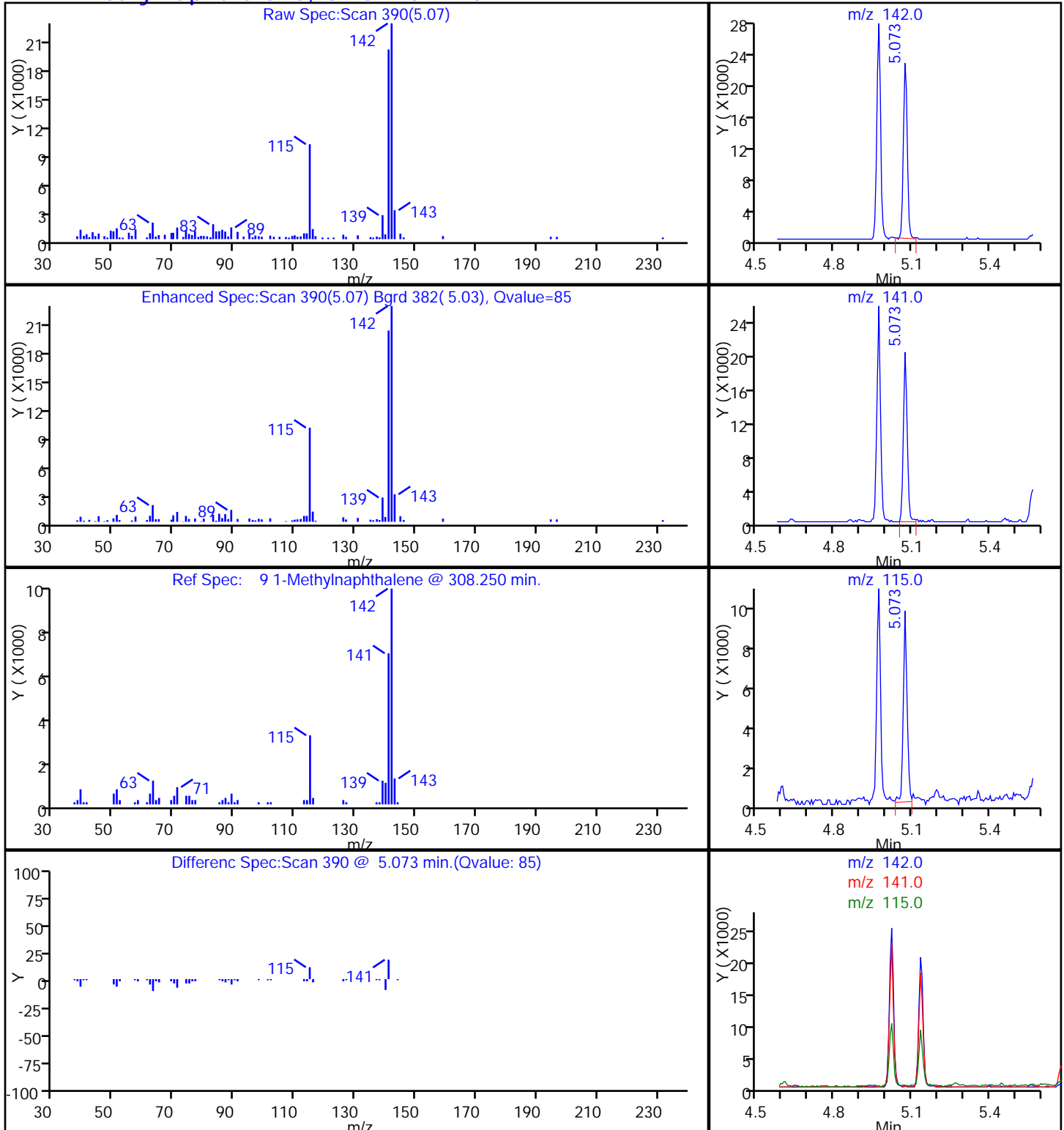
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

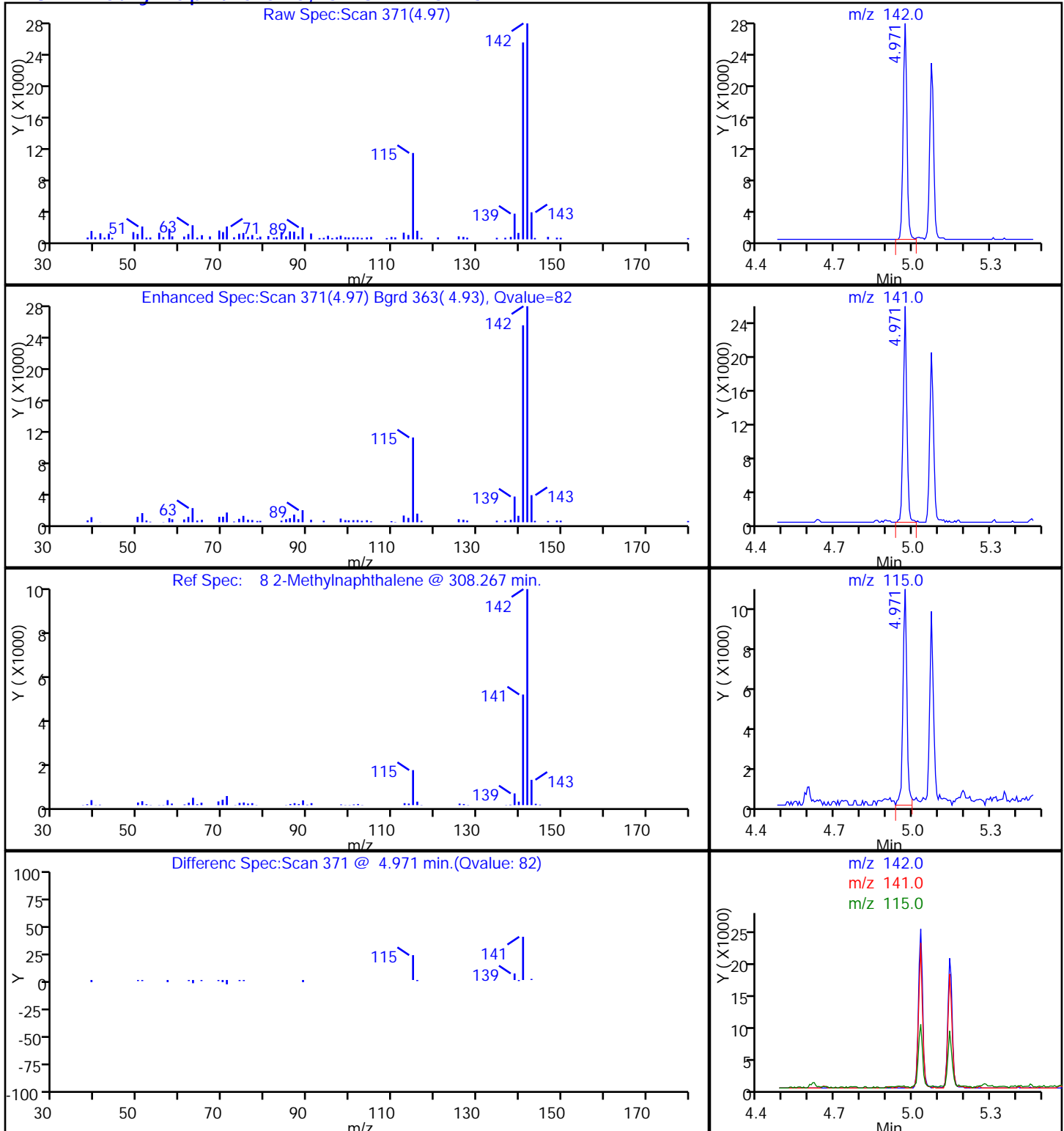
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

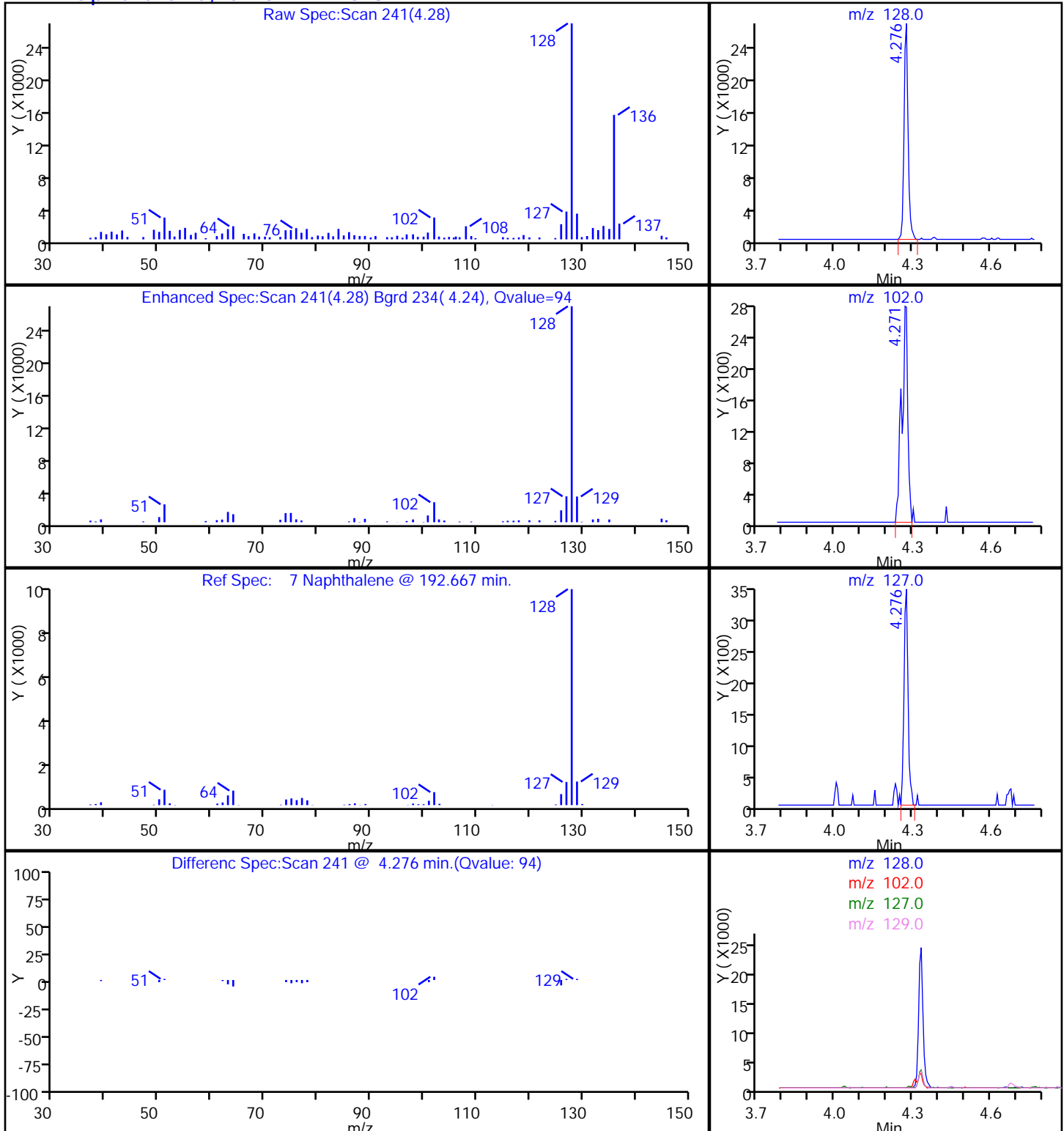
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

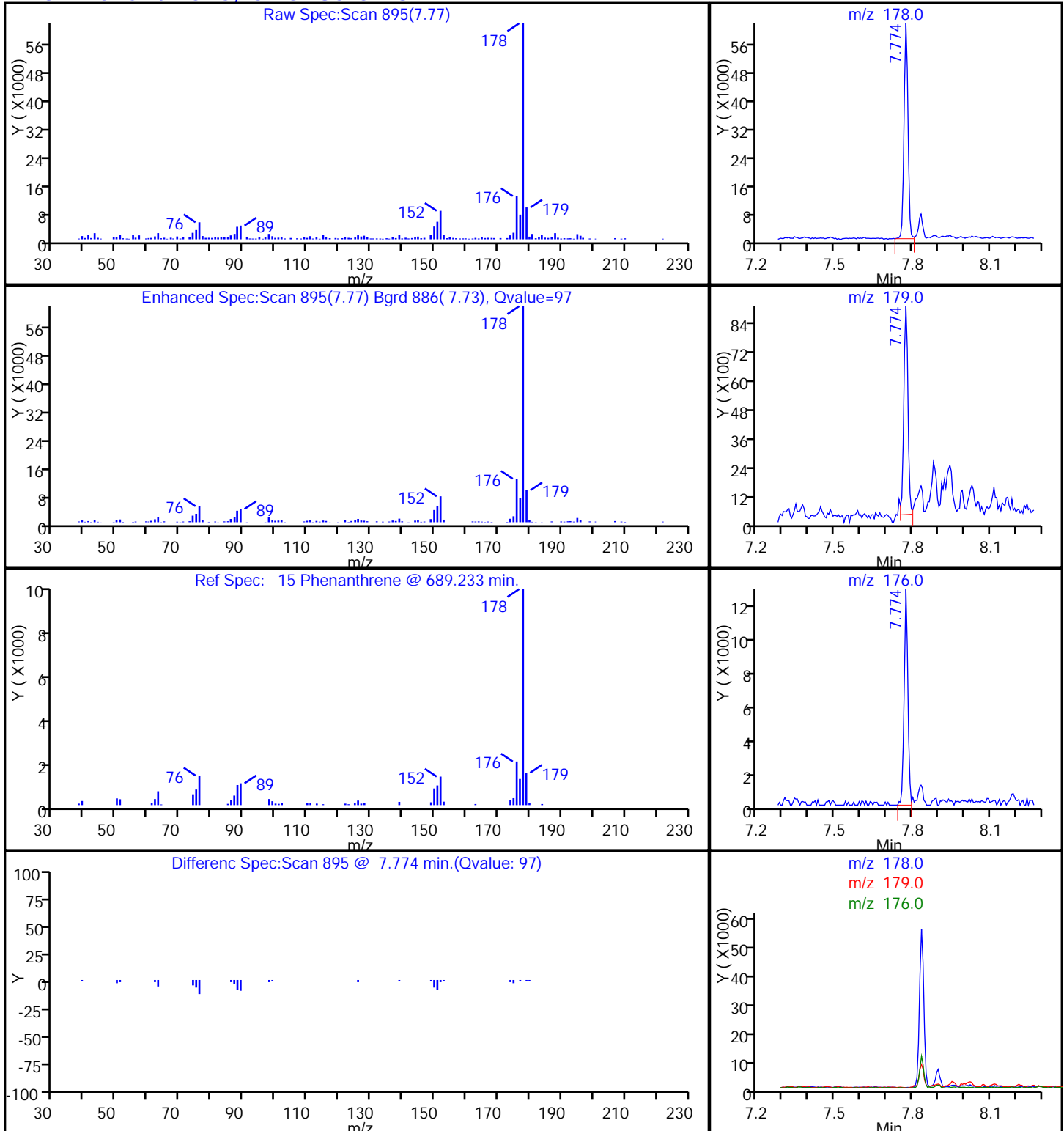
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D

Injection Date: 25-Aug-2014 15:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-3-A

Lab Sample ID: 680-104534-3

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

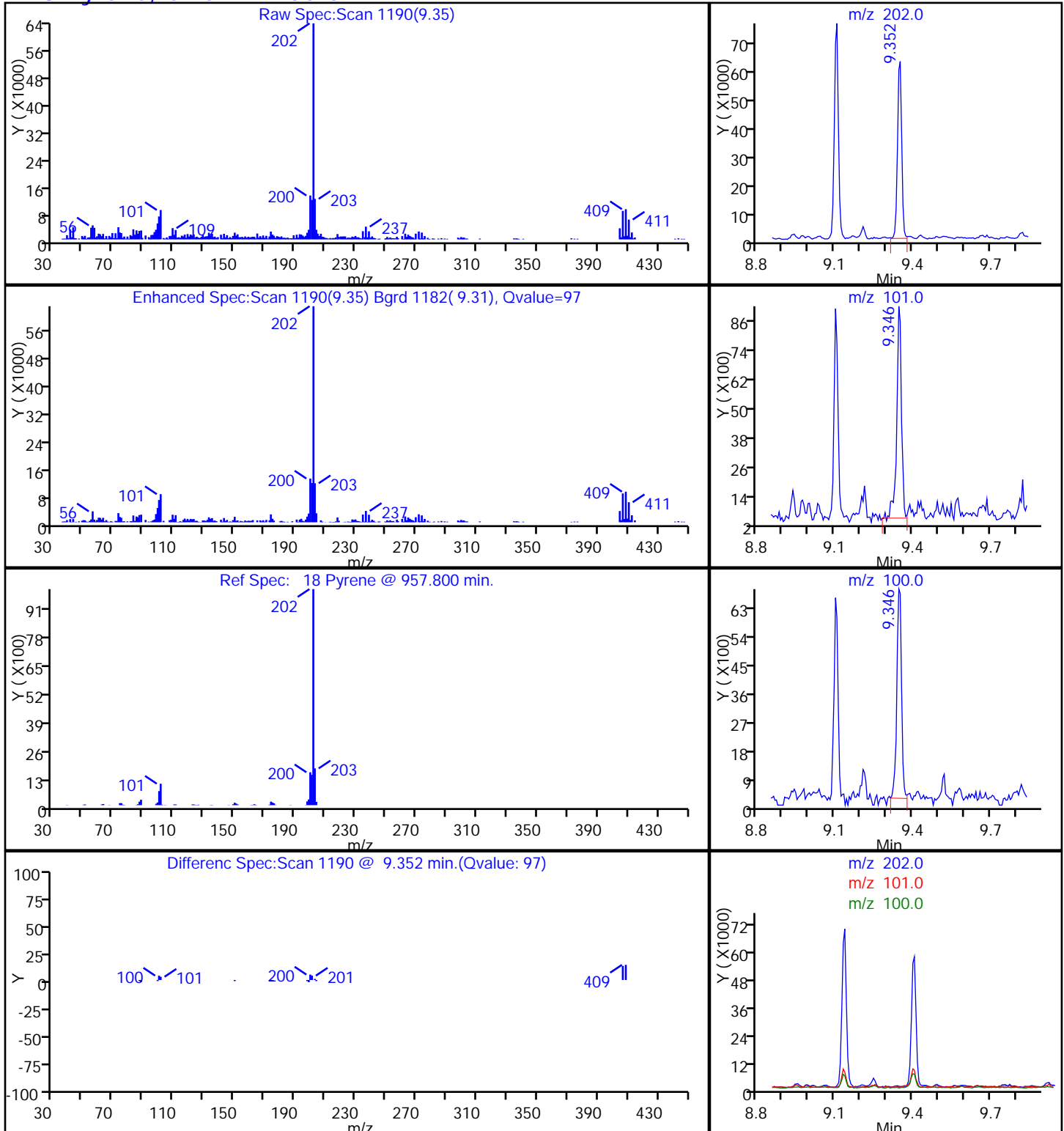
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



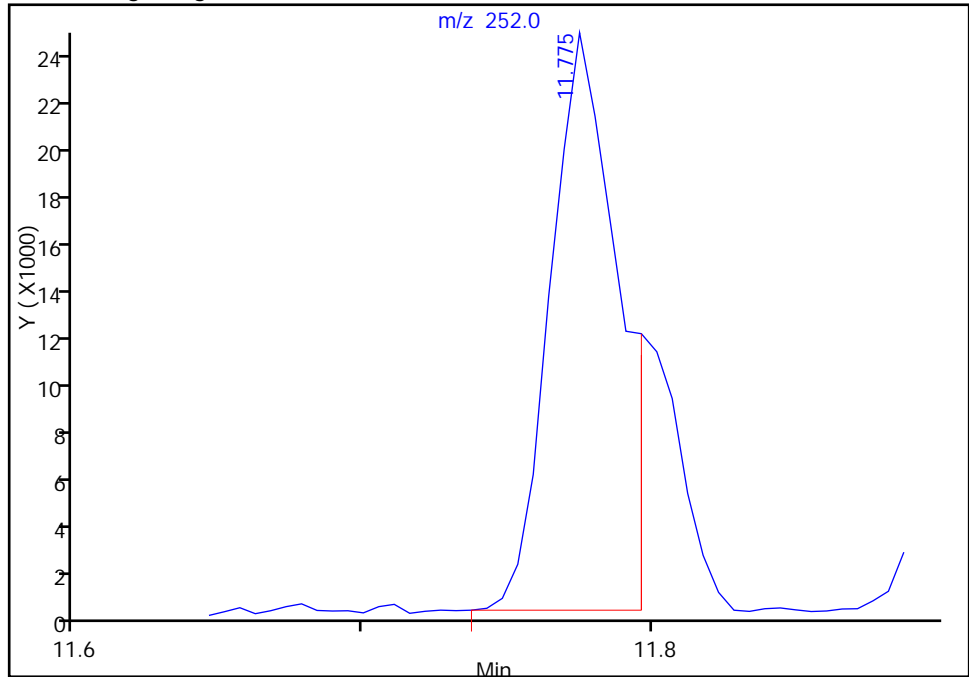
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D		
Injection Date:	25-Aug-2014 15:34:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-3-A	Lab Sample ID:	680-104534-3
Client ID:	CV0163A-CS4"		
Operator ID:	RM	ALS Bottle#:	11
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	11

21 Benzo[b]fluoranthene, CAS: 205-99-2

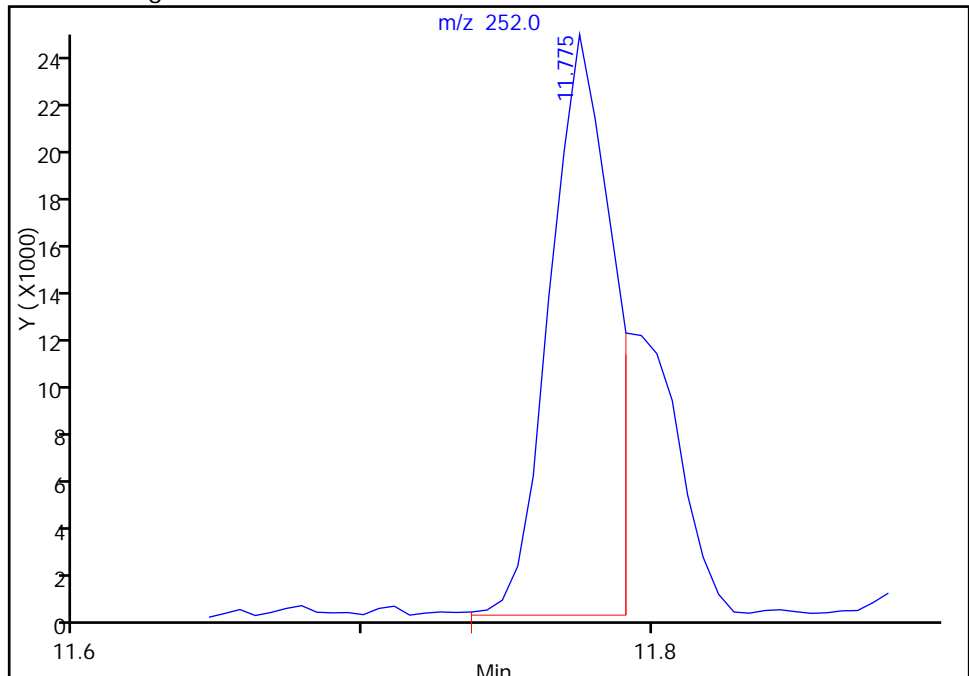
RT: 11.77
Response: 39845
Amount: 0.736949

Processing Integration Results



RT: 11.77
Response: 36616
Amount: 0.677227

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:44:01
Audit Action: Manually Integrated
Audit Reason: Split Peak

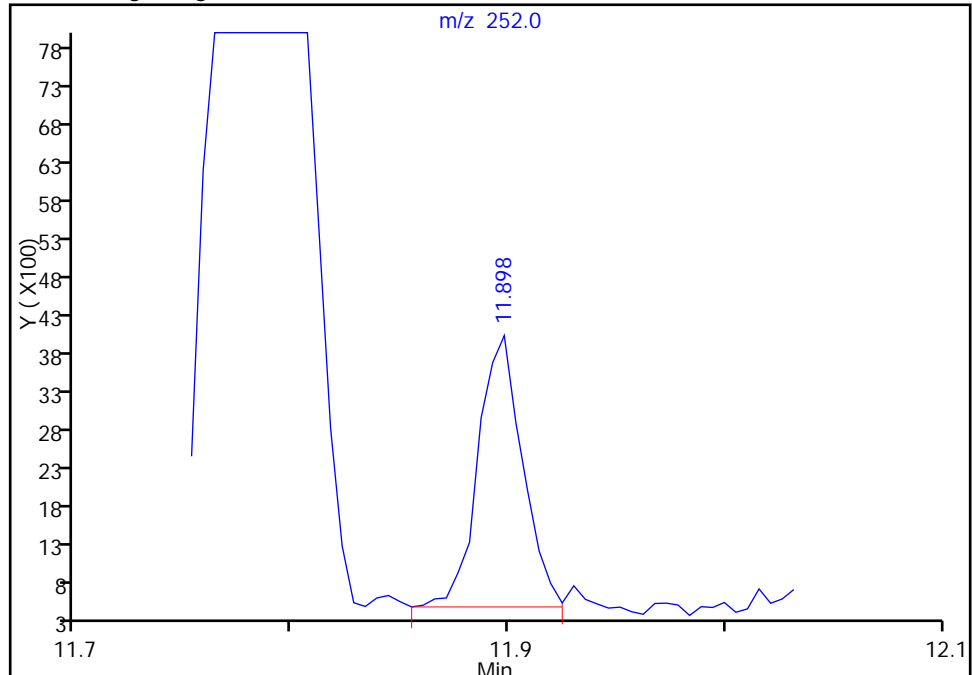
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2511.D		
Injection Date:	25-Aug-2014 15:34:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-3-A	Lab Sample ID:	680-104534-3
Client ID:	CV0163A-CS4"		
Operator ID:	RM	ALS Bottle#:	11
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	11

22 Benzo[k]fluoranthene, CAS: 207-08-9

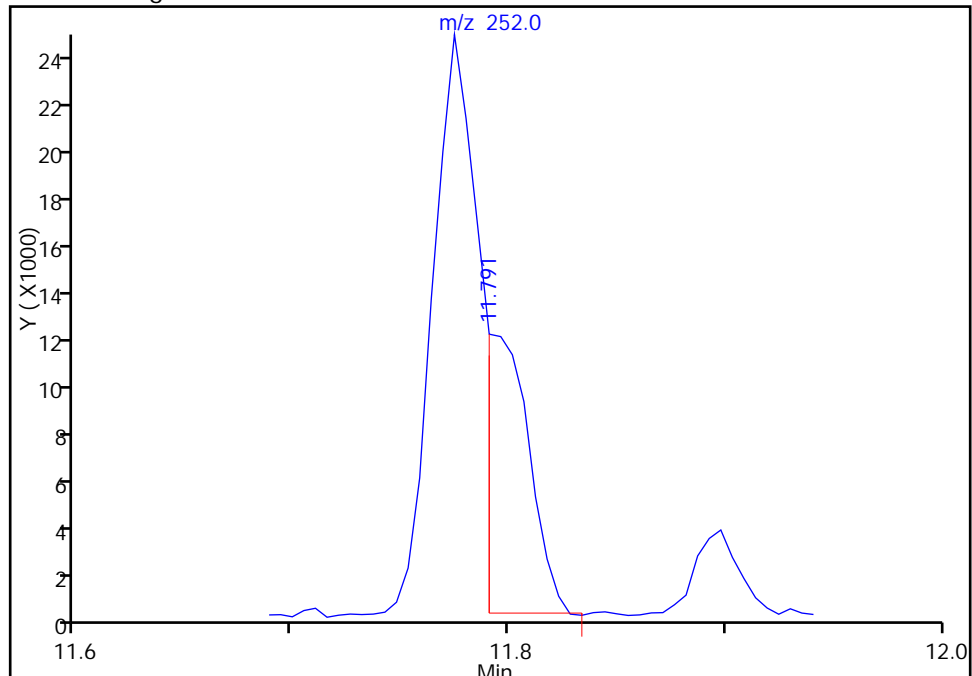
RT: 11.90
Response: 5058
Amount: 0.095424

Processing Integration Results



RT: 11.79
Response: 16080
Amount: 0.303363

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:44:01
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0163A-CS4"</u>	Lab Sample ID: <u>680-104534-4</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2512.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 16:40</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.04(g)</u>	Date Analyzed: <u>08/25/2014 15:56</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>18.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	82	U	82	40
208-96-8	Acenaphthylene	82	U	82	40
120-12-7	Anthracene	82	U	82	40
56-55-3	Benzo[a]anthracene	220		82	40
50-32-8	Benzo[a]pyrene	230		82	15
205-99-2	Benzo[b]fluoranthene	370		82	40
191-24-2	Benzo[g,h,i]perylene	190		82	40
207-08-9	Benzo[k]fluoranthene	130		82	24
218-01-9	Chrysene	260		82	40
53-70-3	Dibenz(a,h)anthracene	82	U	82	40
206-44-0	Fluoranthene	340		82	40
86-73-7	Fluorene	82	U	82	40
193-39-5	Indeno[1,2,3-cd]pyrene	120		82	40
90-12-0	1-Methylnaphthalene	53	J	82	38
91-57-6	2-Methylnaphthalene	62	J	82	40
91-20-3	Naphthalene	61	J	82	40
85-01-8	Phenanthrene	180		82	29
129-00-0	Pyrene	340		82	40

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D
 Lims ID: 680-104534-A-4-A Lab Sample ID: 680-104534-4
 Client ID: CV0163A-CS4"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 15:56:30 ALS Bottle#: 12 Worklist Smp#: 12
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-4-A DL=10
 Misc. Info.: 680-0012210-012
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 10:53:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: webbk

Date: 26-Aug-2014 08:47:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	100	359329	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	199048	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	303200	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	99	179106	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	111157	2.00	
7 Naphthalene	128	4.270	4.271	-0.001	79	24750	0.1490	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	82	16498	0.1535	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	81	13477	0.1304	
11 Acenaphthylene	152	5.934	5.934	0.000	91	9996	0.0619	
15 Phenanthrene	178	7.774	7.774	0.000	87	66201	0.4538	
16 Anthracene	178	7.833	7.833	0.000	82	9102	0.0633	
17 Fluoranthene	202	9.106	9.106	0.000	98	118601	0.8353	
18 Pyrene	202	9.352	9.352	0.000	97	96612	0.8300	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	74	47857	0.5336	
20 Chrysene	228	10.657	10.662	-0.005	89	55209	0.6348	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	97	55762	0.9160	M
22 Benzo[k]fluoranthene	252	11.796	11.807	-0.011	47	18476	0.3096	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	96	27550	0.5569	
24 Indeno[1,2,3-cd]pyrene	276	13.861	13.855	0.006	85	18131	0.2903	
26 Benzo[g,h,i]perylene	276	14.347	14.347	0.000	79	19819	0.4698	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Worklist Smp#: 12

Client ID: CV0163A-CS4"

Injection Vol: 2.0 ul

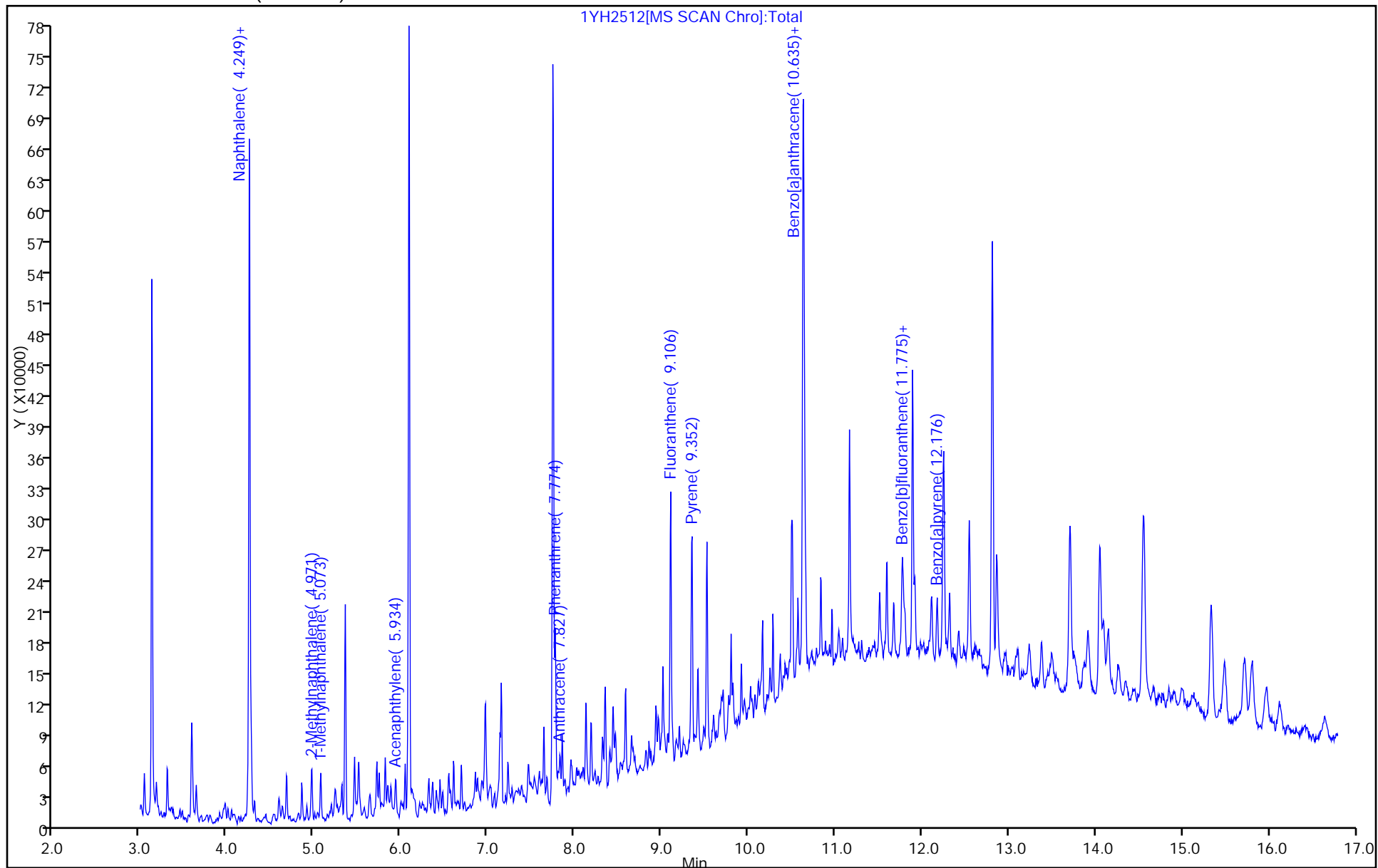
Dil. Factor: 10.0000

ALS Bottle#: 12

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

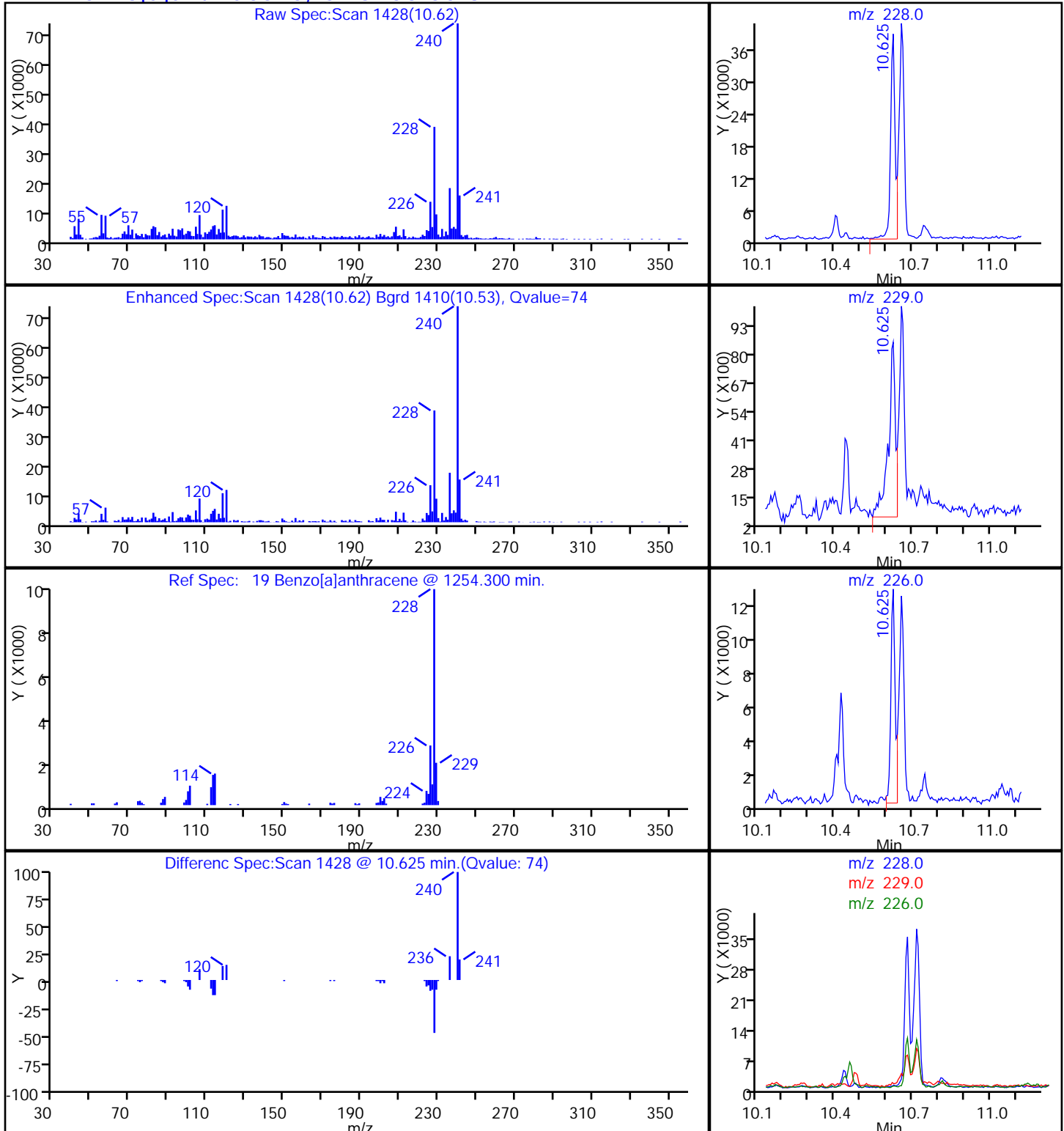
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

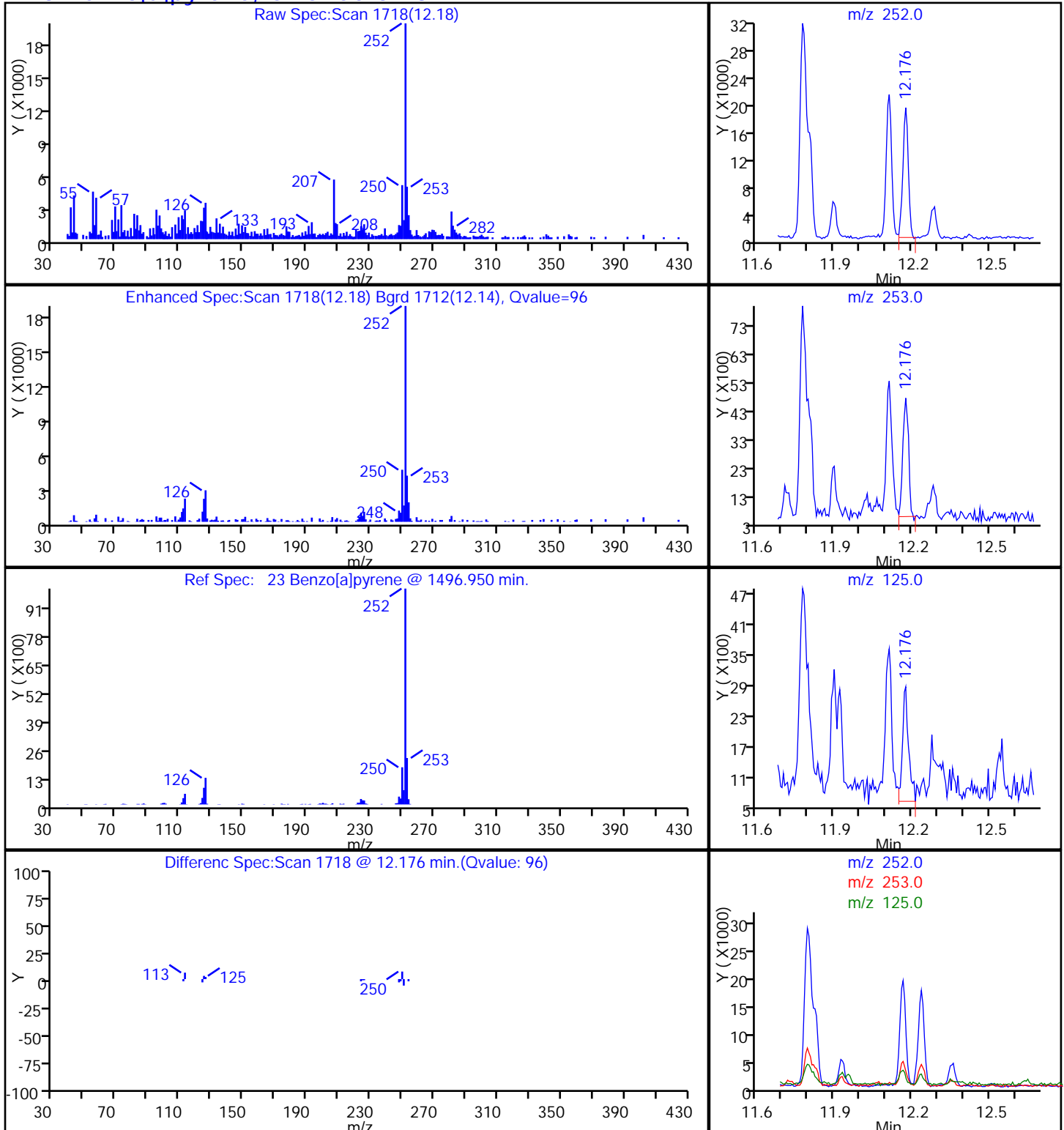
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

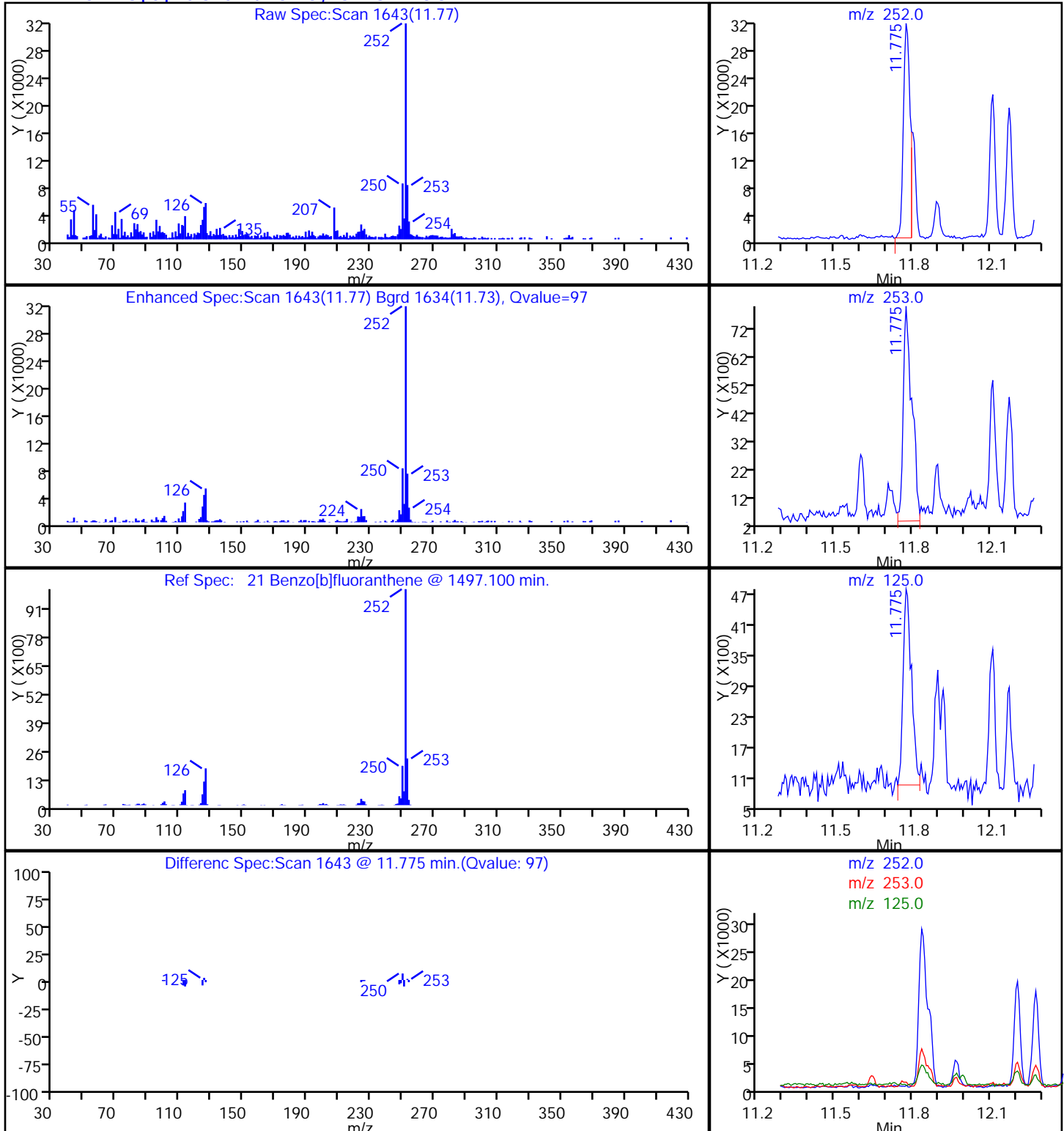
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

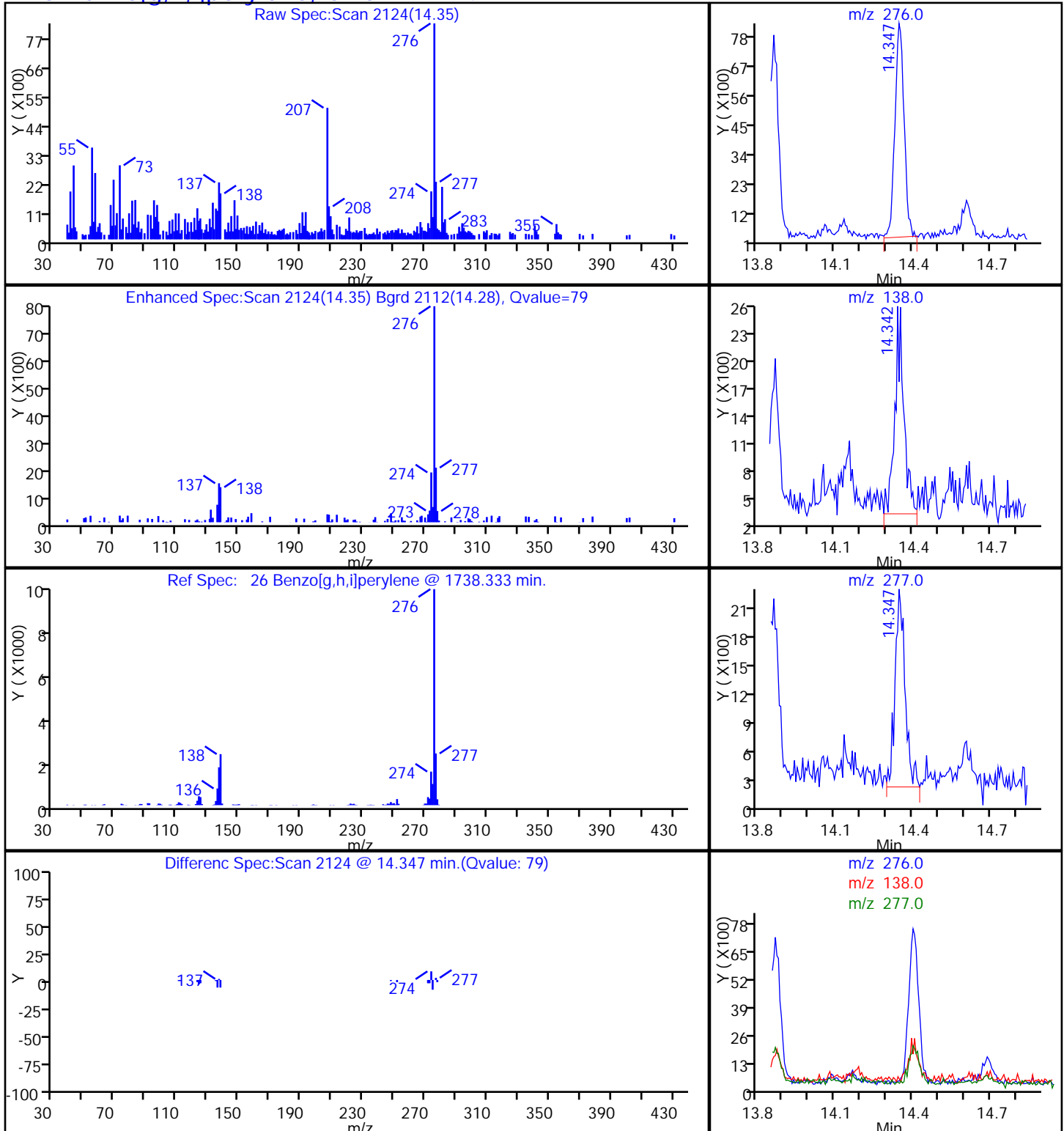
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

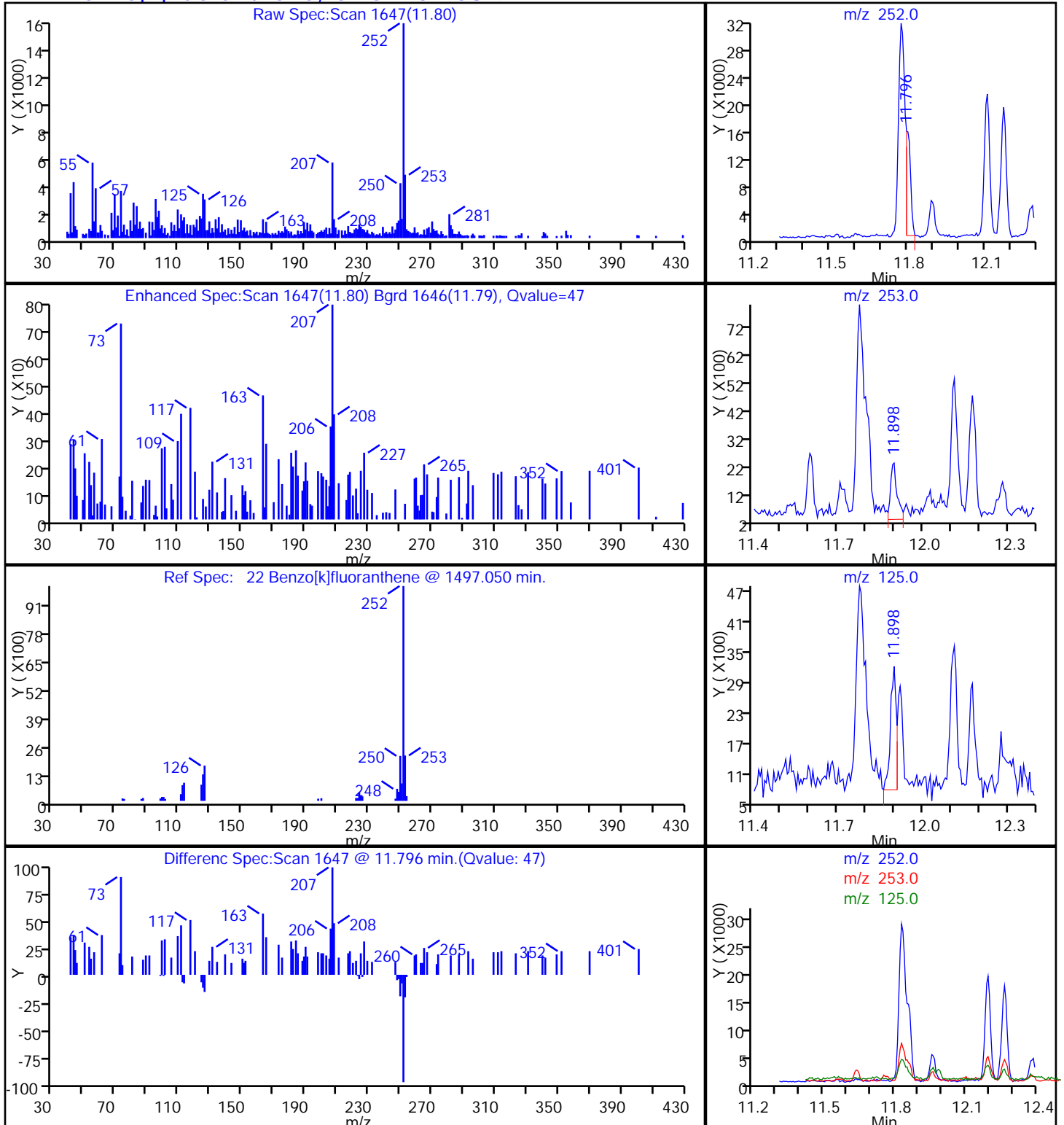
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

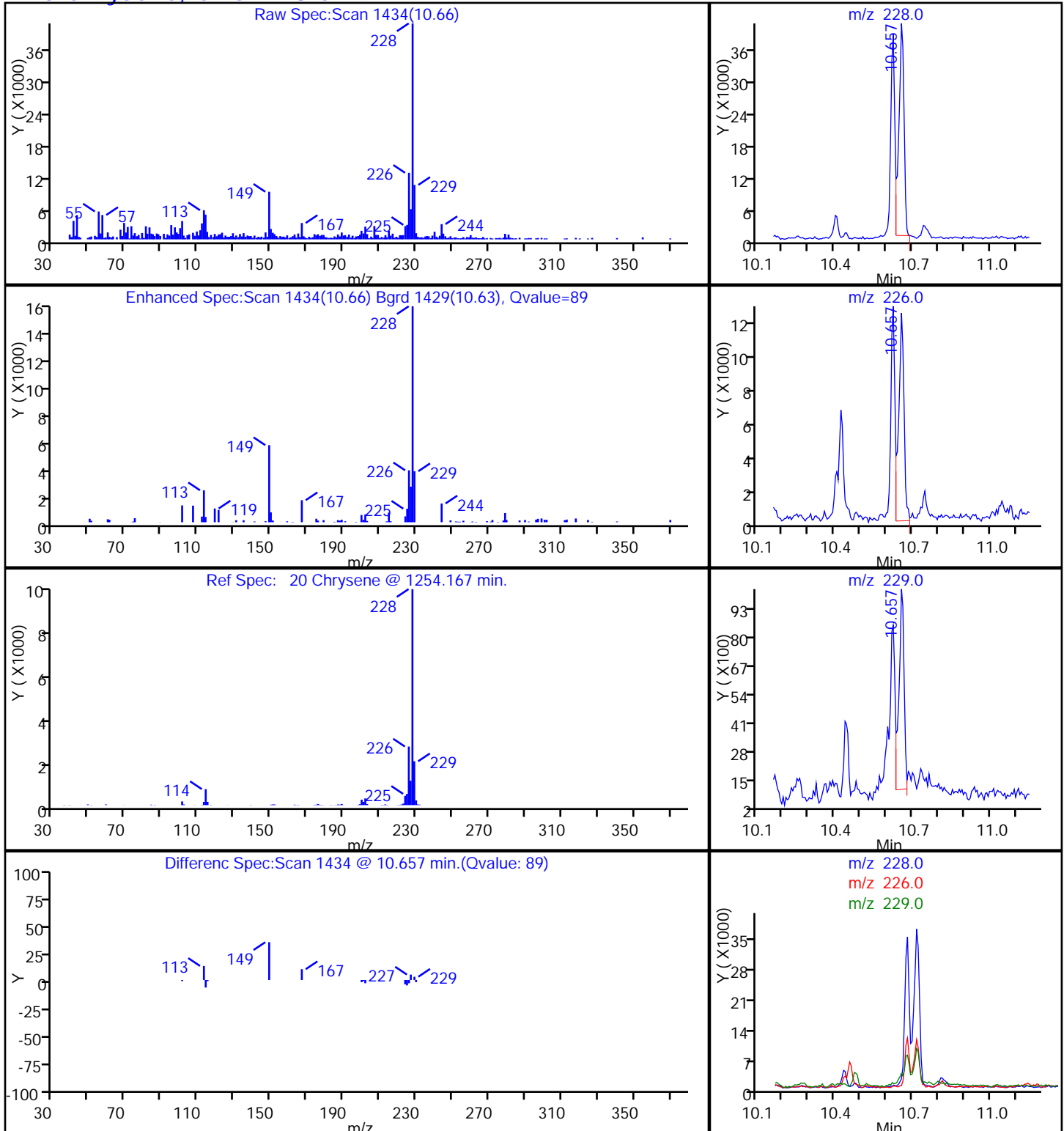
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

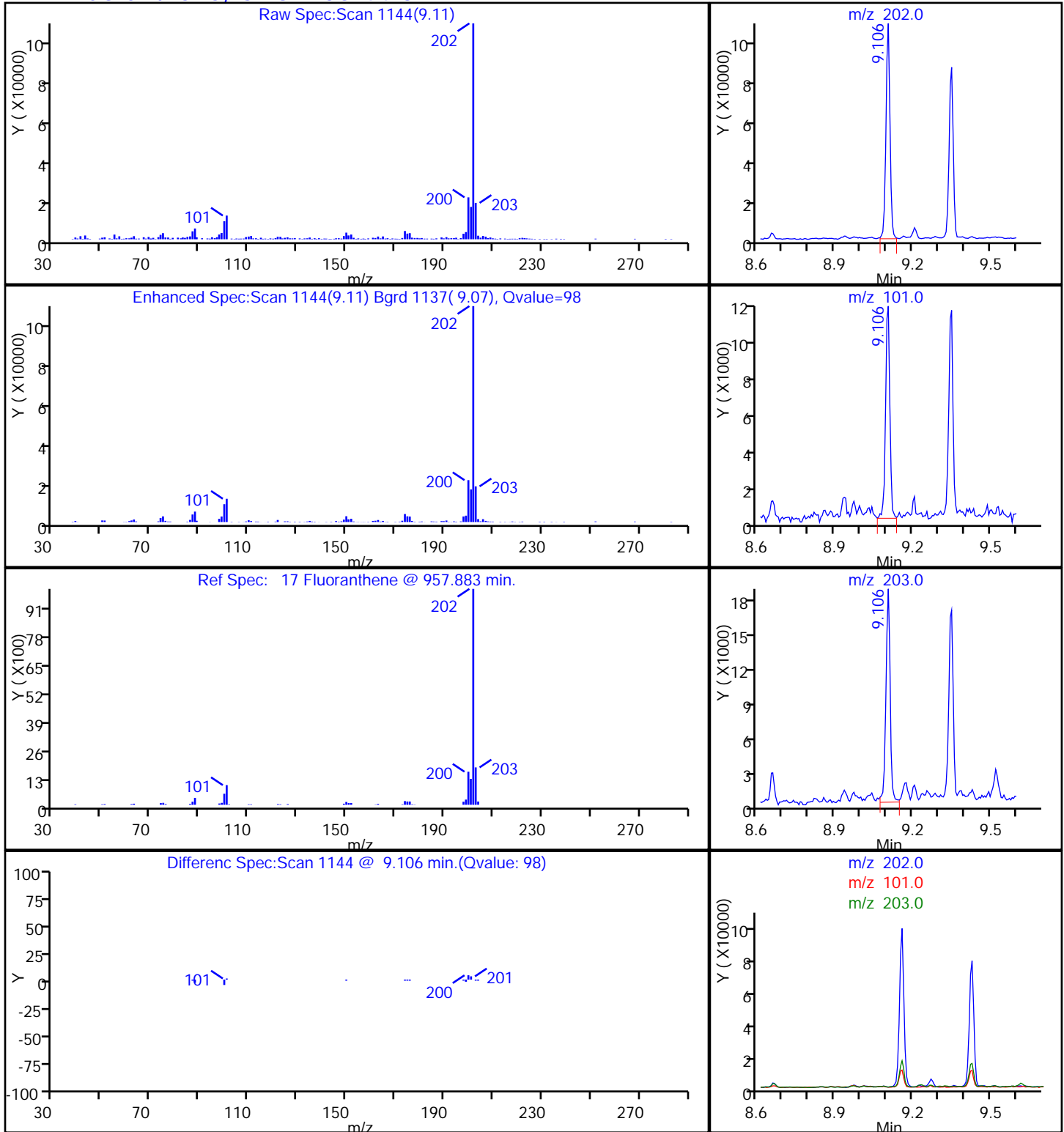
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

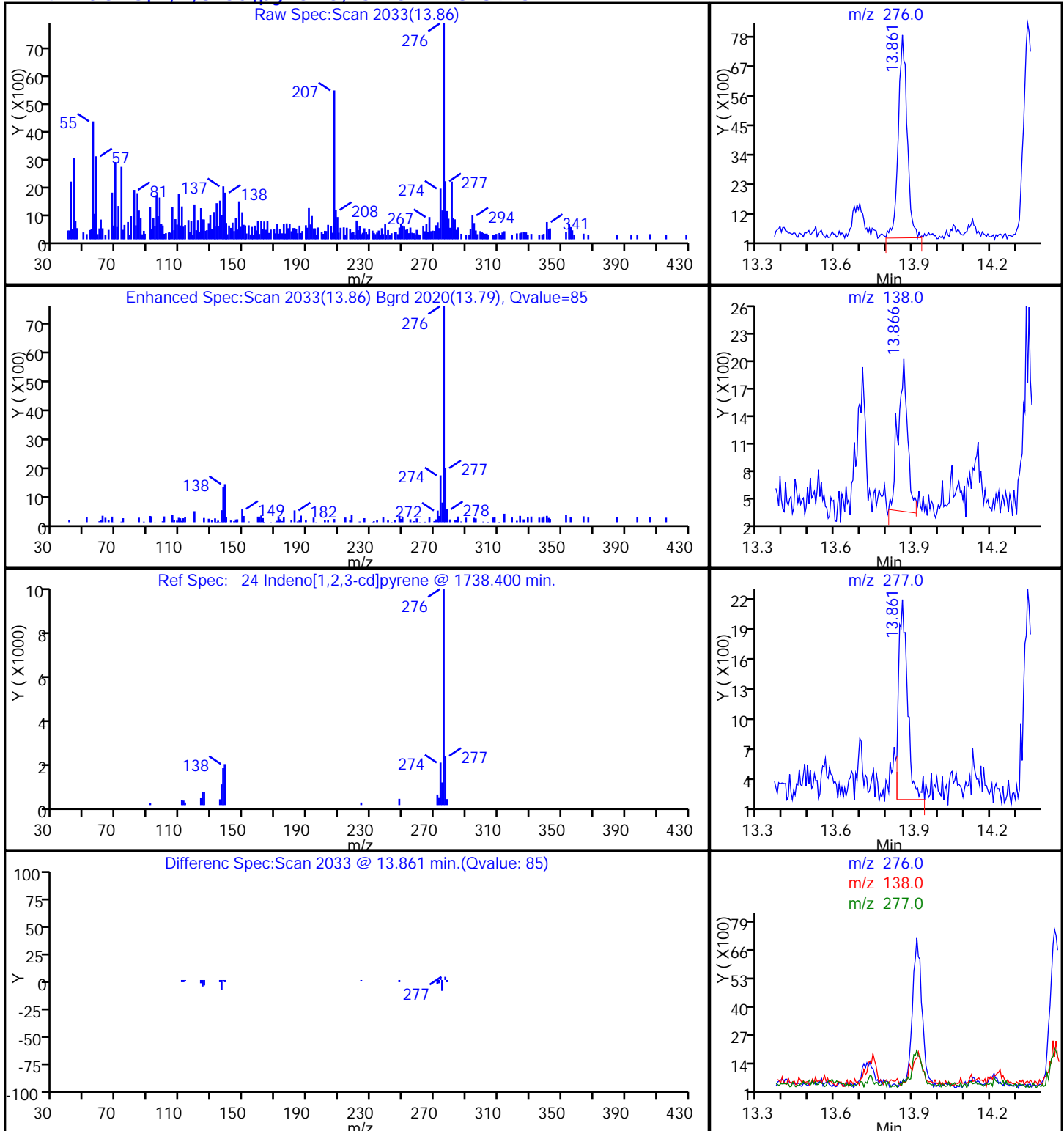
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

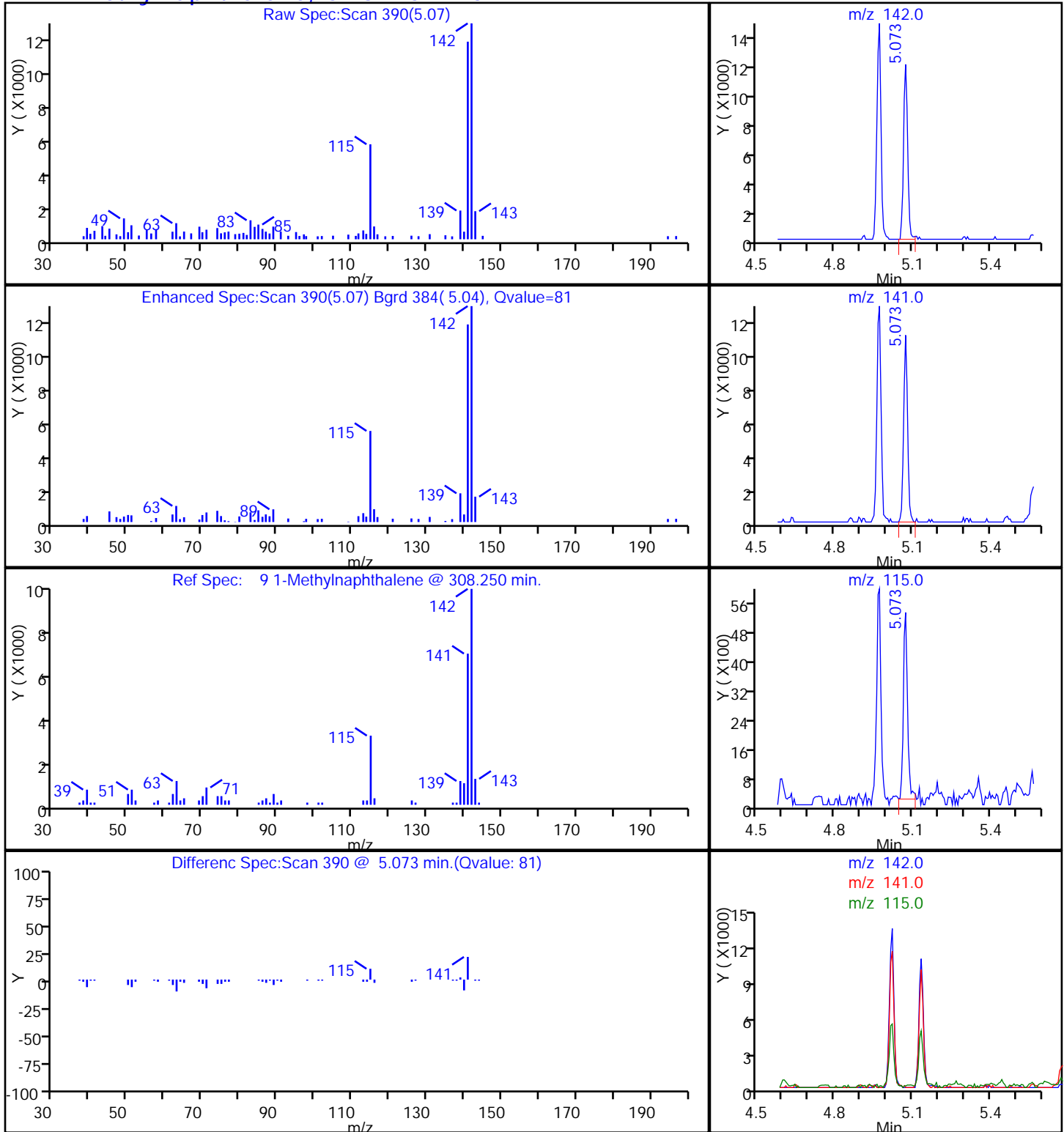
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

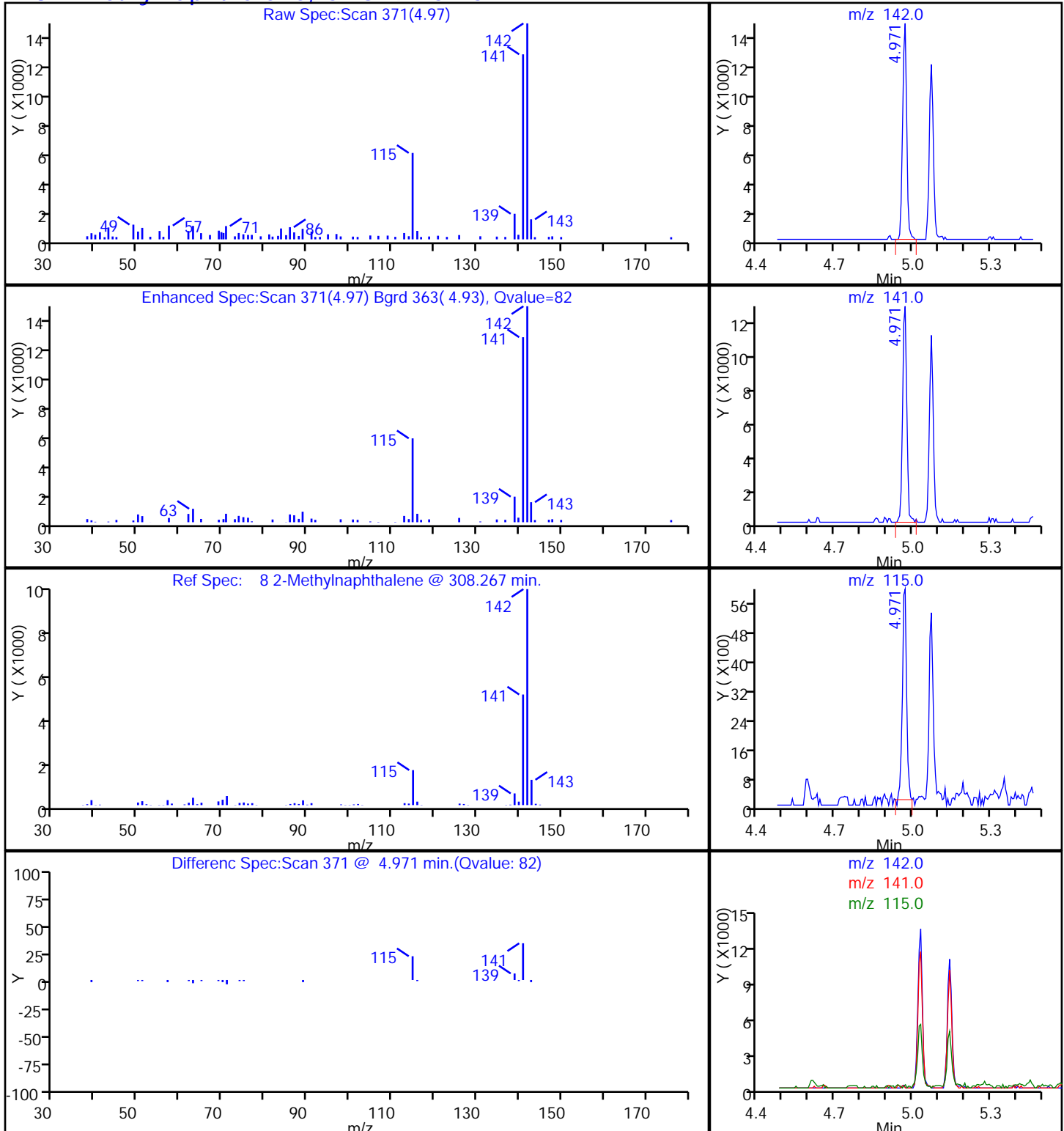
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

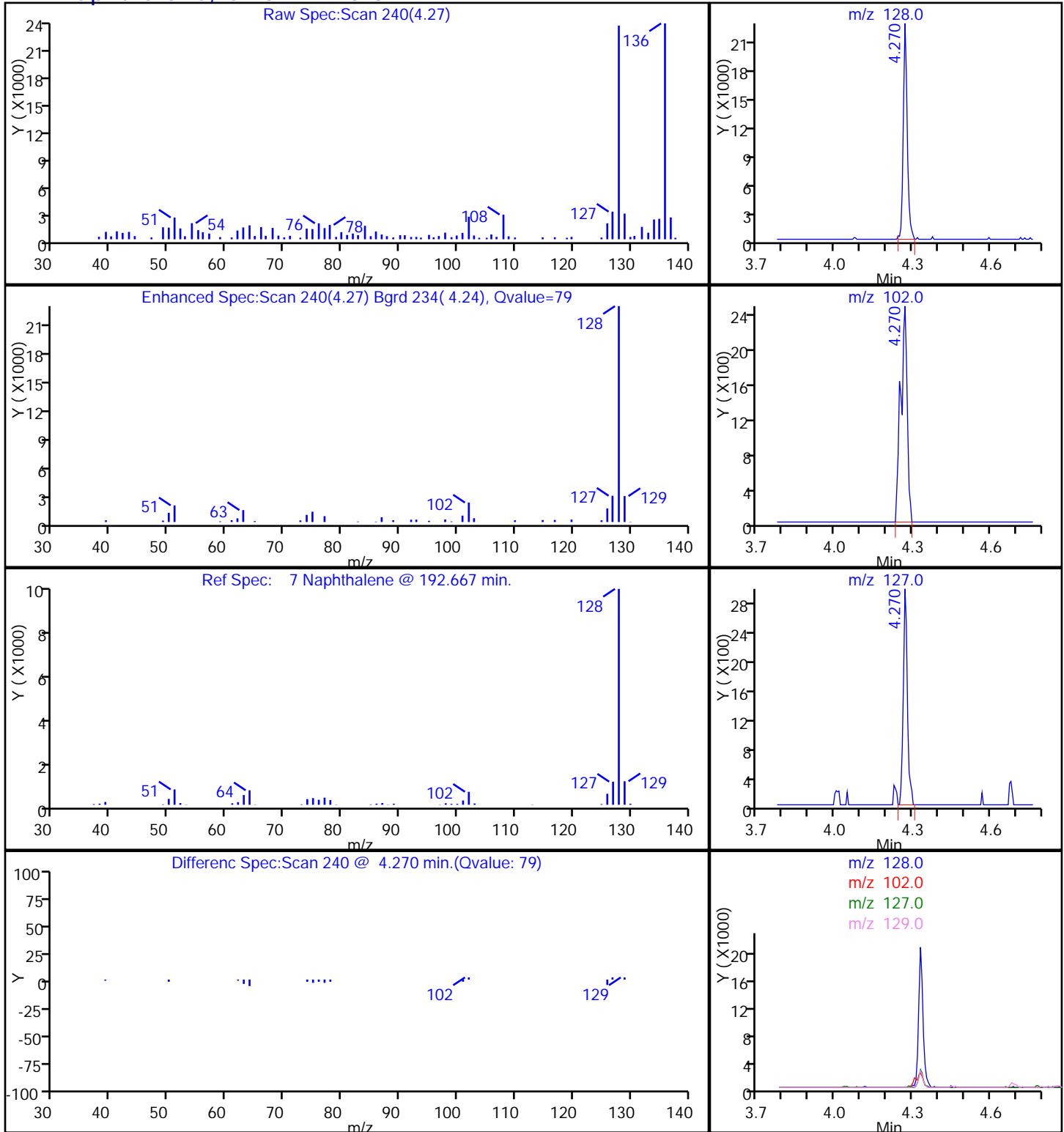
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

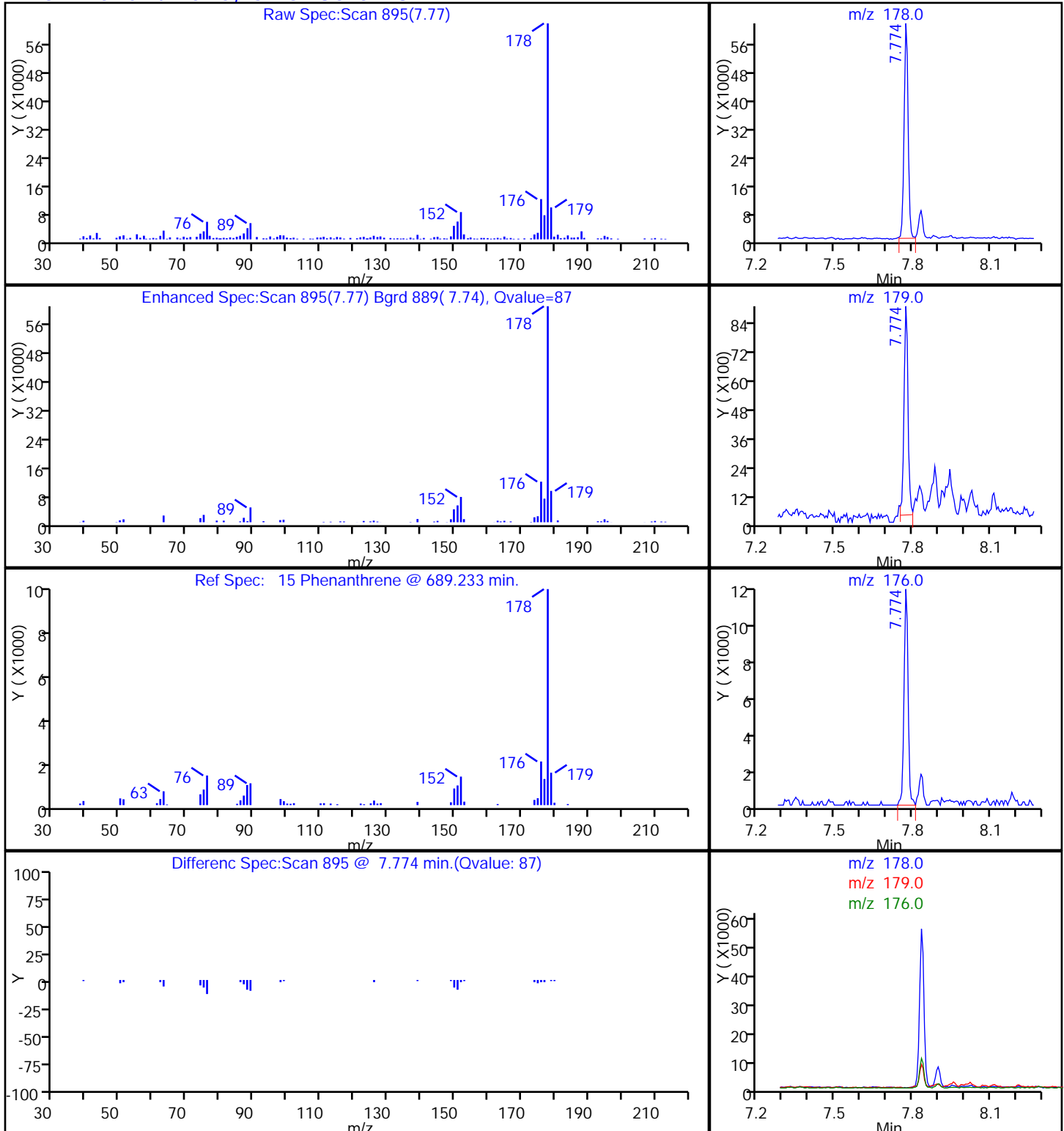
Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D

Injection Date: 25-Aug-2014 15:56:30

Instrument ID: CMSY

Lims ID: 680-104534-A-4-A

Lab Sample ID: 680-104534-4

Client ID: CV0163A-CS4"

Operator ID: RM

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

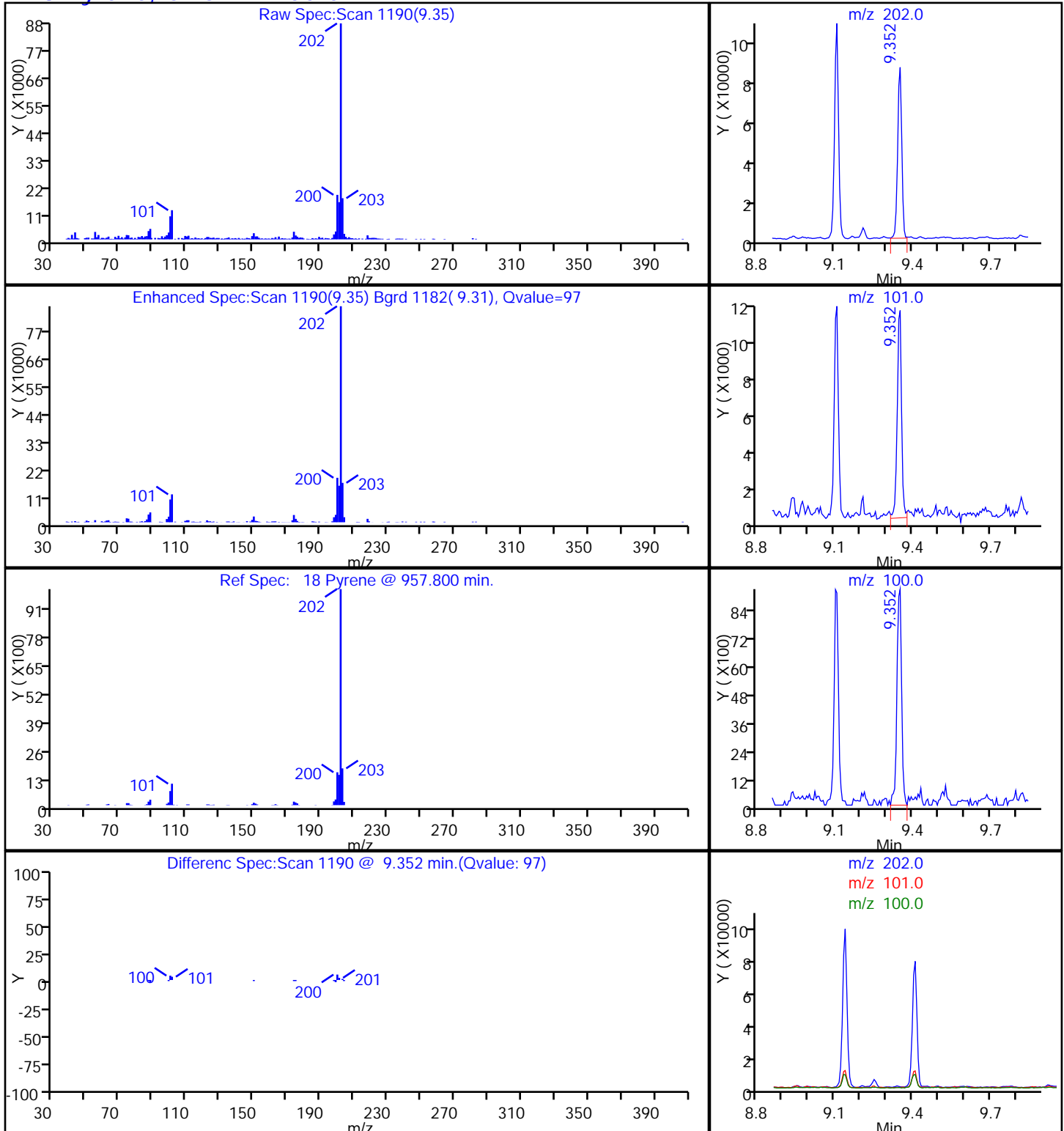
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



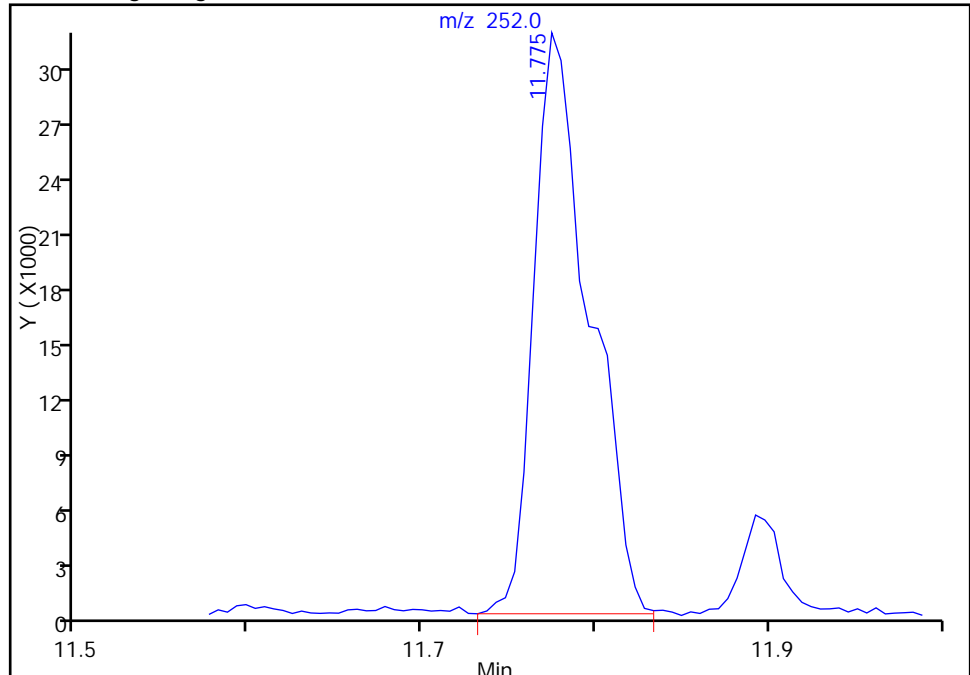
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D		
Injection Date:	25-Aug-2014 15:56:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-4-A	Lab Sample ID:	680-104534-4
Client ID:	CV0163A-CS4"		
Operator ID:	RM	ALS Bottle#:	12
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	12

21 Benzo[b]fluoranthene, CAS: 205-99-2

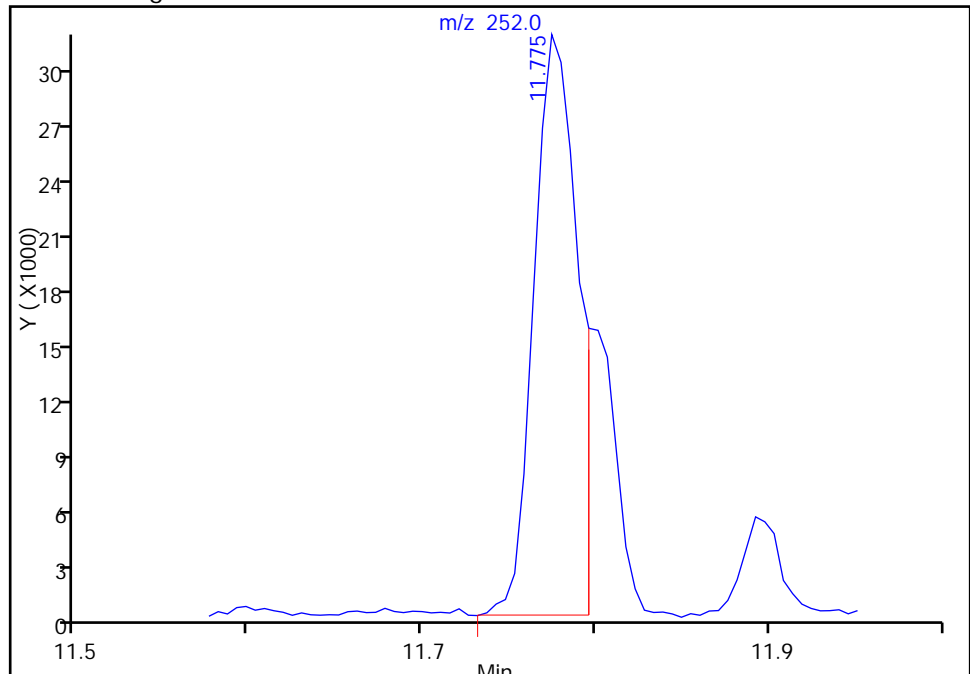
RT: 11.77
Response: 69856
Amount: 1.147560

Processing Integration Results



RT: 11.77
Response: 55762
Amount: 0.916030

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:47:21
Audit Action: Manually Integrated
Audit Reason: Split Peak

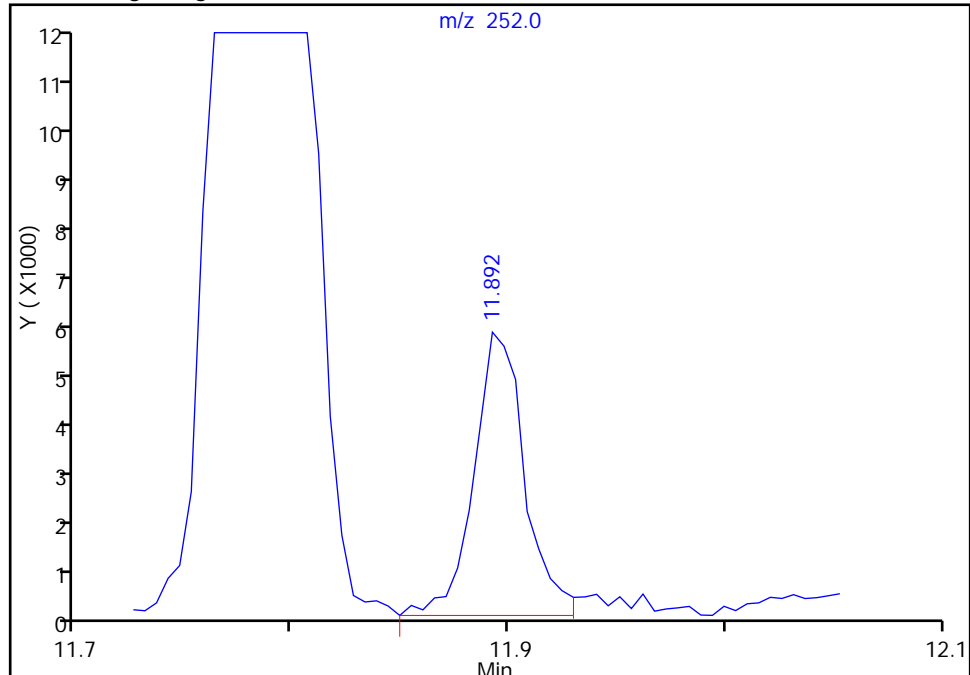
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2512.D		
Injection Date:	25-Aug-2014 15:56:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-4-A	Lab Sample ID:	680-104534-4
Client ID:	CV0163A-CS4"		
Operator ID:	RM	ALS Bottle#:	12
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	12

22 Benzo[k]fluoranthene, CAS: 207-08-9

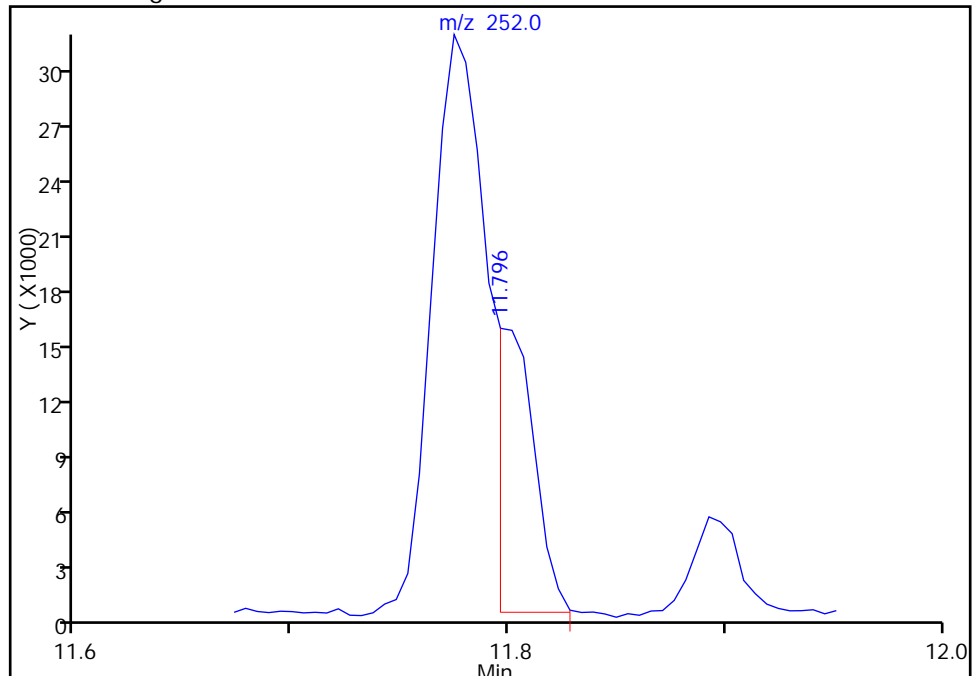
RT: 11.89
Response: 8785
Amount: 0.147206

Processing Integration Results



RT: 11.80
Response: 18476
Amount: 0.309594

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:47:21
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085A-CS6"</u>	Lab Sample ID: <u>680-104534-5</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2513.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 09:10</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 16:19</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>14.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	78	U	78	39
208-96-8	Acenaphthylene	180		78	39
120-12-7	Anthracene	180		78	39
56-55-3	Benzo[a]anthracene	1500		78	39
50-32-8	Benzo[a]pyrene	1800		78	14
205-99-2	Benzo[b]fluoranthene	2200		78	39
191-24-2	Benzo[g,h,i]perylene	1200		78	39
207-08-9	Benzo[k]fluoranthene	1100		78	23
218-01-9	Chrysene	1300		78	39
53-70-3	Dibenz(a,h)anthracene	290		78	39
206-44-0	Fluoranthene	2500		78	39
86-73-7	Fluorene	78	U	78	39
193-39-5	Indeno[1,2,3-cd]pyrene	790		78	39
90-12-0	1-Methylnaphthalene	40	J	78	36
91-57-6	2-Methylnaphthalene	64	J	78	39
91-20-3	Naphthalene	160		78	39
85-01-8	Phenanthrene	810		78	28
129-00-0	Pyrene	3100		78	39

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D
 Lims ID: 680-104534-A-5-A Lab Sample ID: 680-104534-5
 Client ID: HP0085A-CS6"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 16:19:30 ALS Bottle#: 13 Worklist Smp#: 13
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-5-A DL=10
 Misc. Info.: 680-0012210-013
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 16:31:53 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: webbk

Date: 26-Aug-2014 08:50:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.255	4.249	0.006	99	336922	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	90	186344	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	279303	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	98	162730	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	94849	2.00	
7 Naphthalene	128	4.271	4.271	0.000	97	64778	0.4158	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	80	16590	0.1646	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	74	10026	0.1034	
11 Acenaphthylene	152	5.934	5.934	0.000	97	70709	0.4678	
14 Fluorene	166	6.699	6.699	0.000	61	7534	0.0737	
15 Phenanthrene	178	7.774	7.774	0.000	98	280829	2.09	
16 Anthracene	178	7.833	7.833	0.000	97	61463	0.4640	
17 Fluoranthene	202	9.111	9.106	0.005	98	843253	6.45	
18 Pyrene	202	9.357	9.352	0.005	98	830535	7.85	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	96	305813	3.75	
20 Chrysene	228	10.662	10.662	0.000	91	268408	3.40	
21 Benzo[b]fluoranthene	252	11.780	11.775	0.005	98	296361	5.71	M
22 Benzo[k]fluoranthene	252	11.796	11.807	-0.011	96	142739	2.80	M
23 Benzo[a]pyrene	252	12.181	12.176	0.005	96	194669	4.61	
24 Indeno[1,2,3-cd]pyrene	276	13.866	13.855	0.011	99	115290	2.03	
25 Dibenzo(a,h)anthracene	278	13.882	13.882	-0.005	44	25961	0.7522	
26 Benzo[g,h,i]perylene	276	14.353	14.347	0.006	91	115020	3.20	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Worklist Smp#: 13

Client ID: HP0085A-CS6"

Injection Vol: 2.0 ul

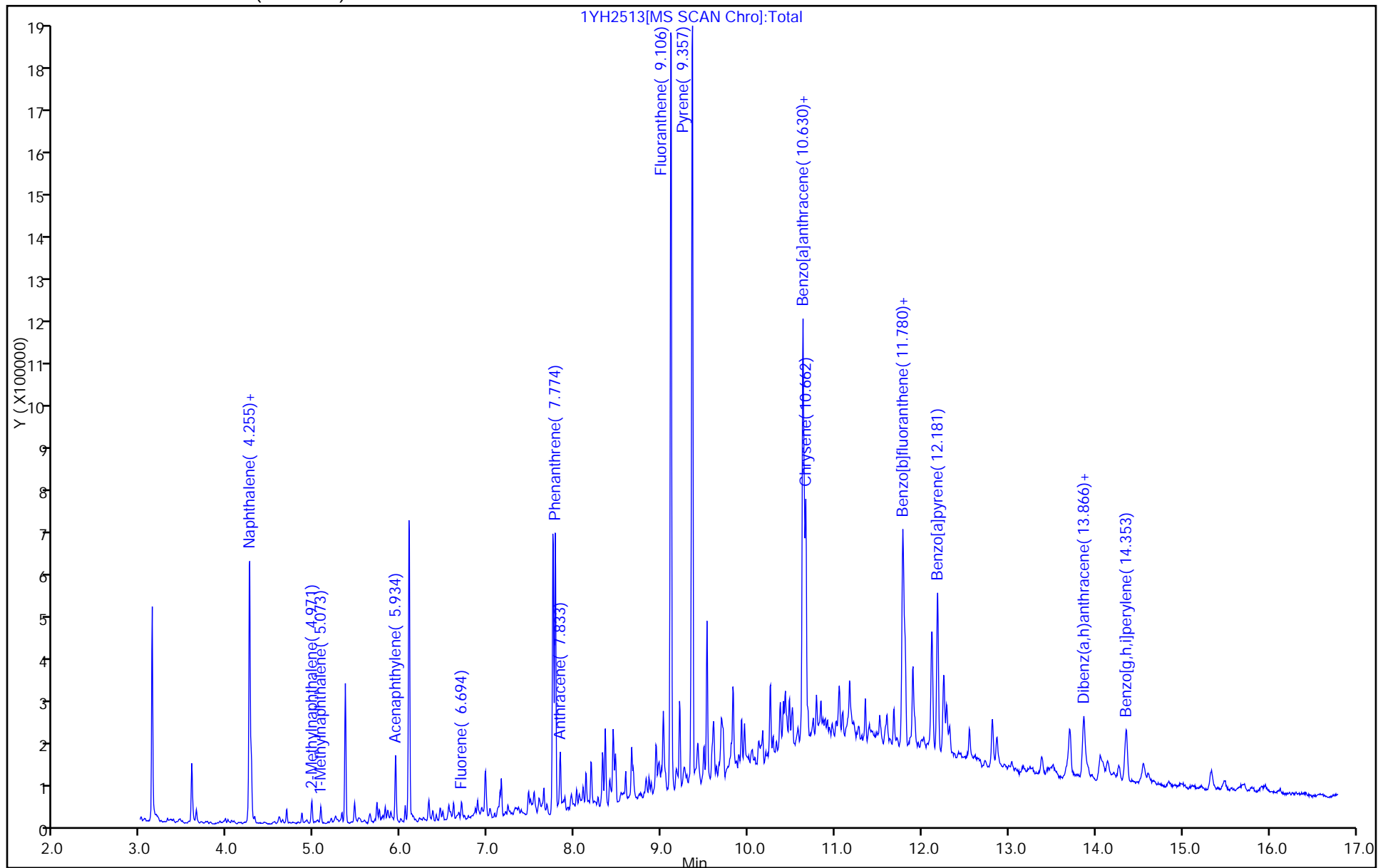
Dil. Factor: 10.0000

ALS Bottle#: 13

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

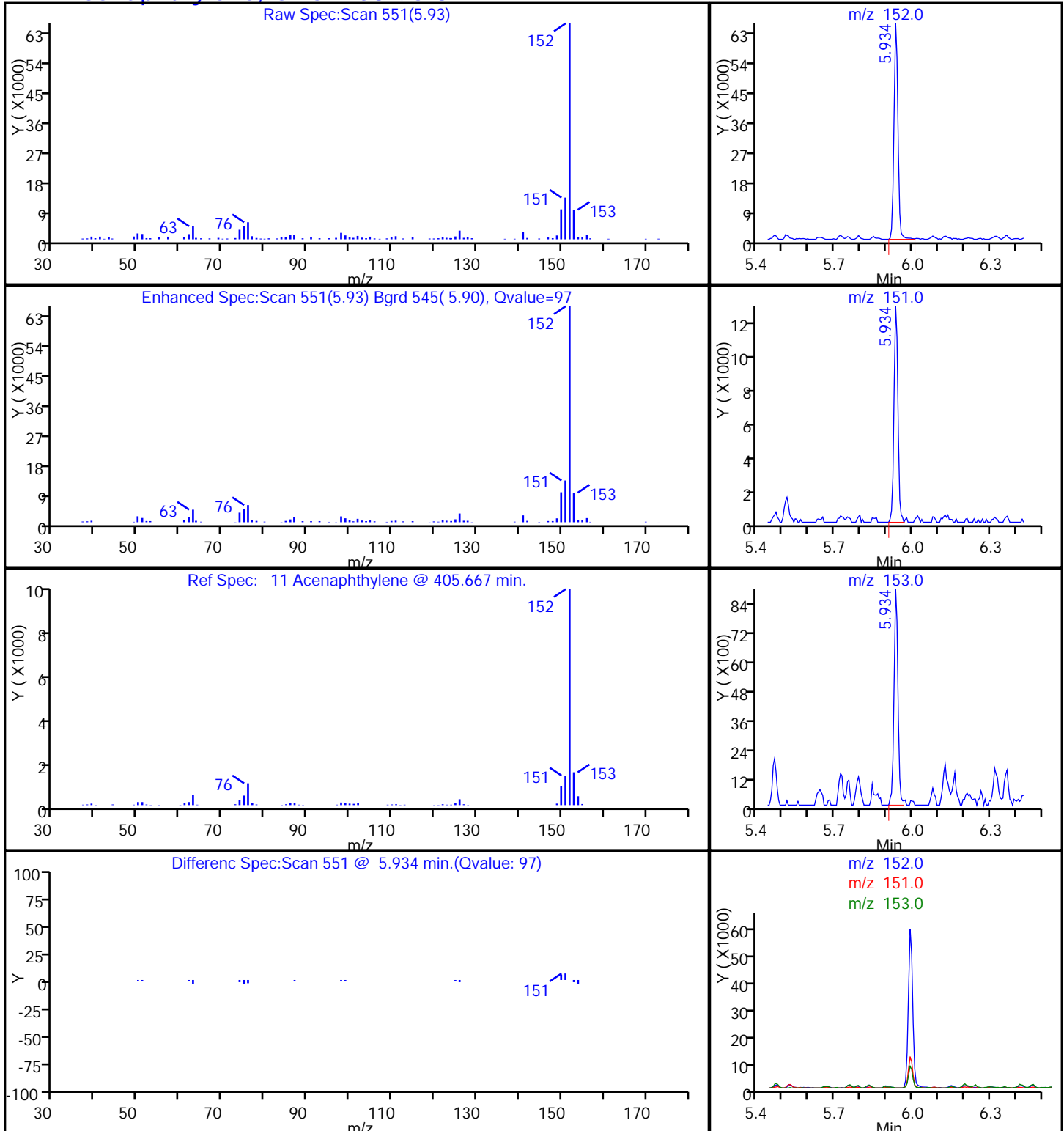
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

11 Acenaphthylene, CAS: 208-96-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

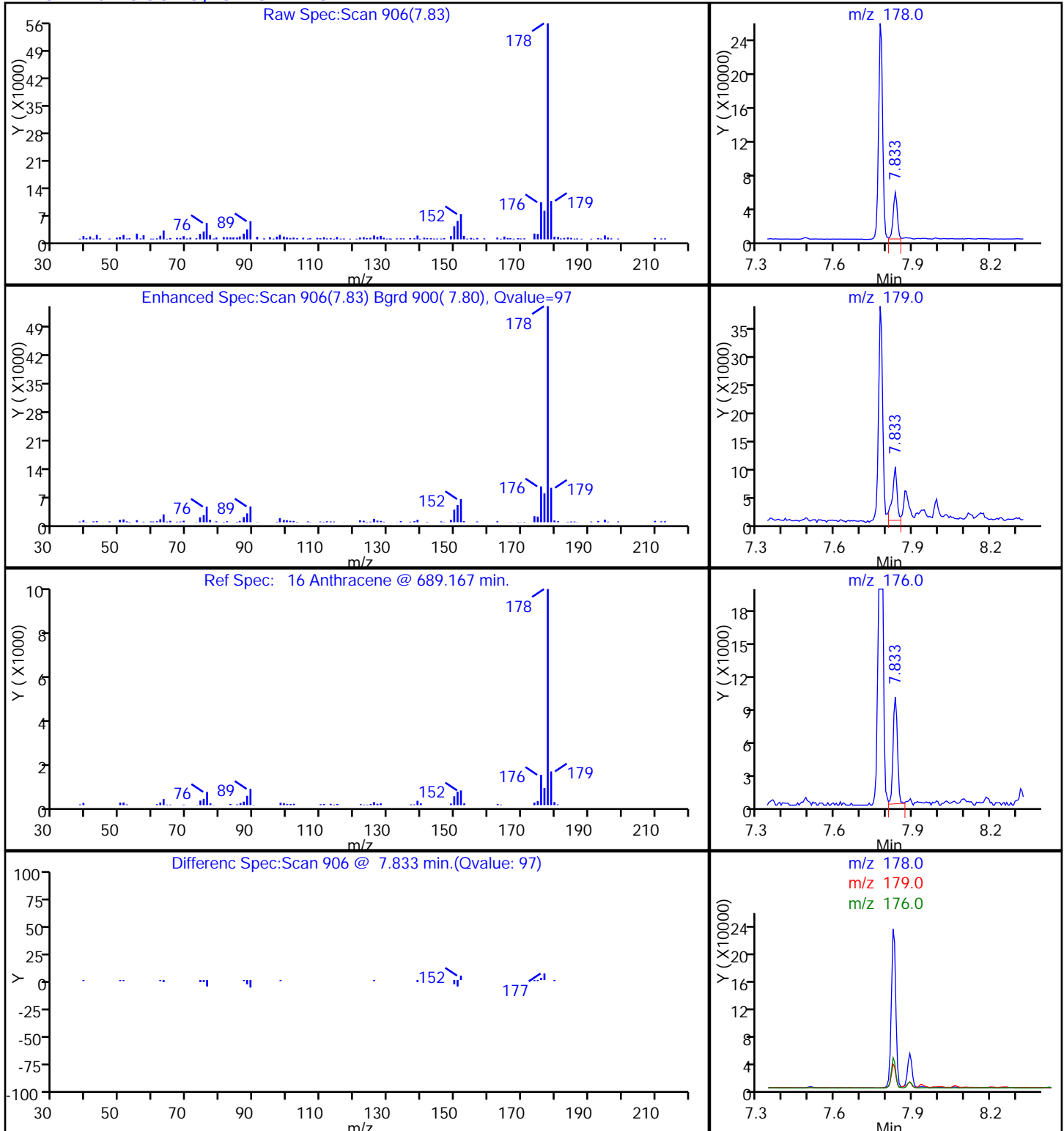
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

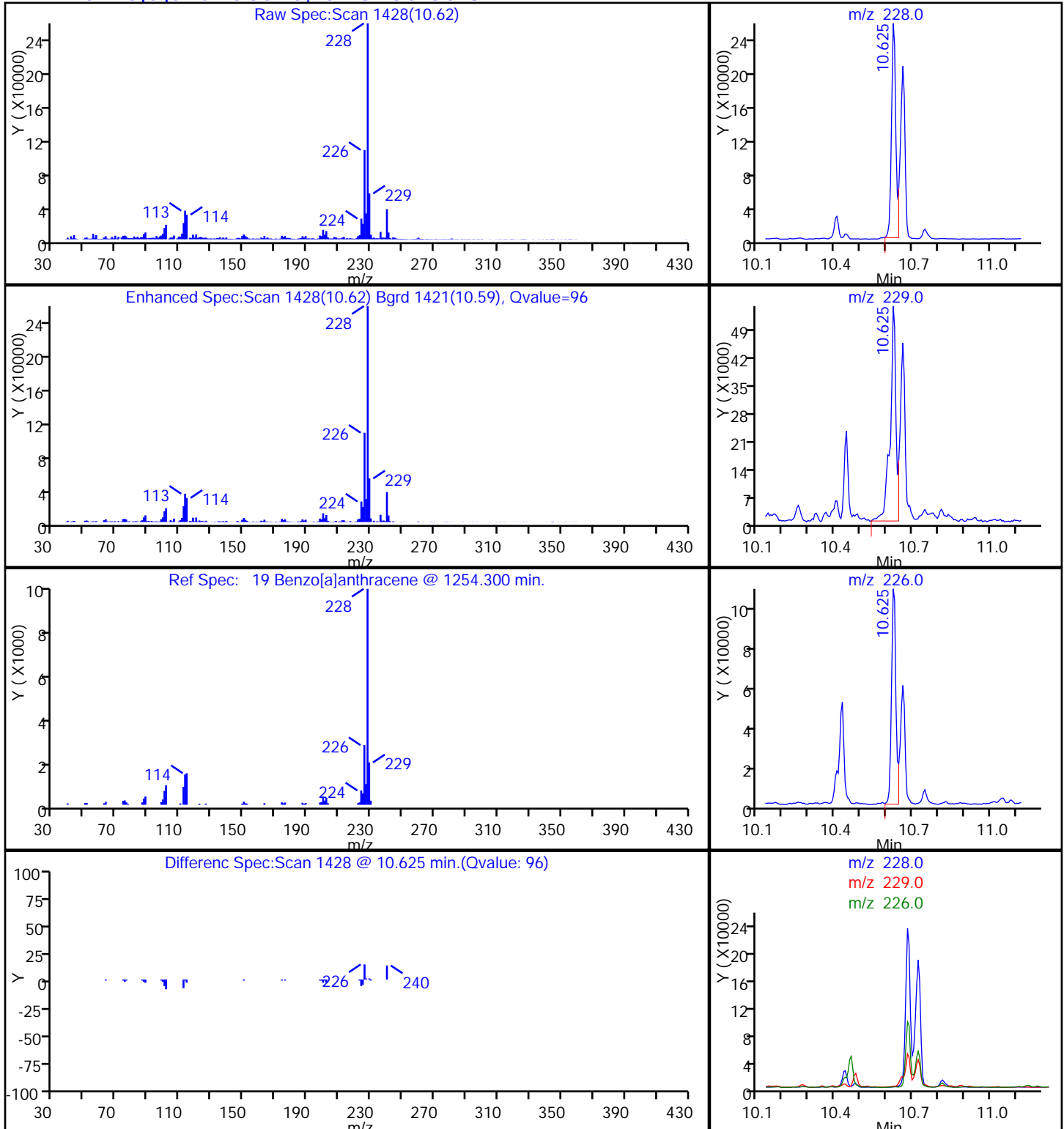
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

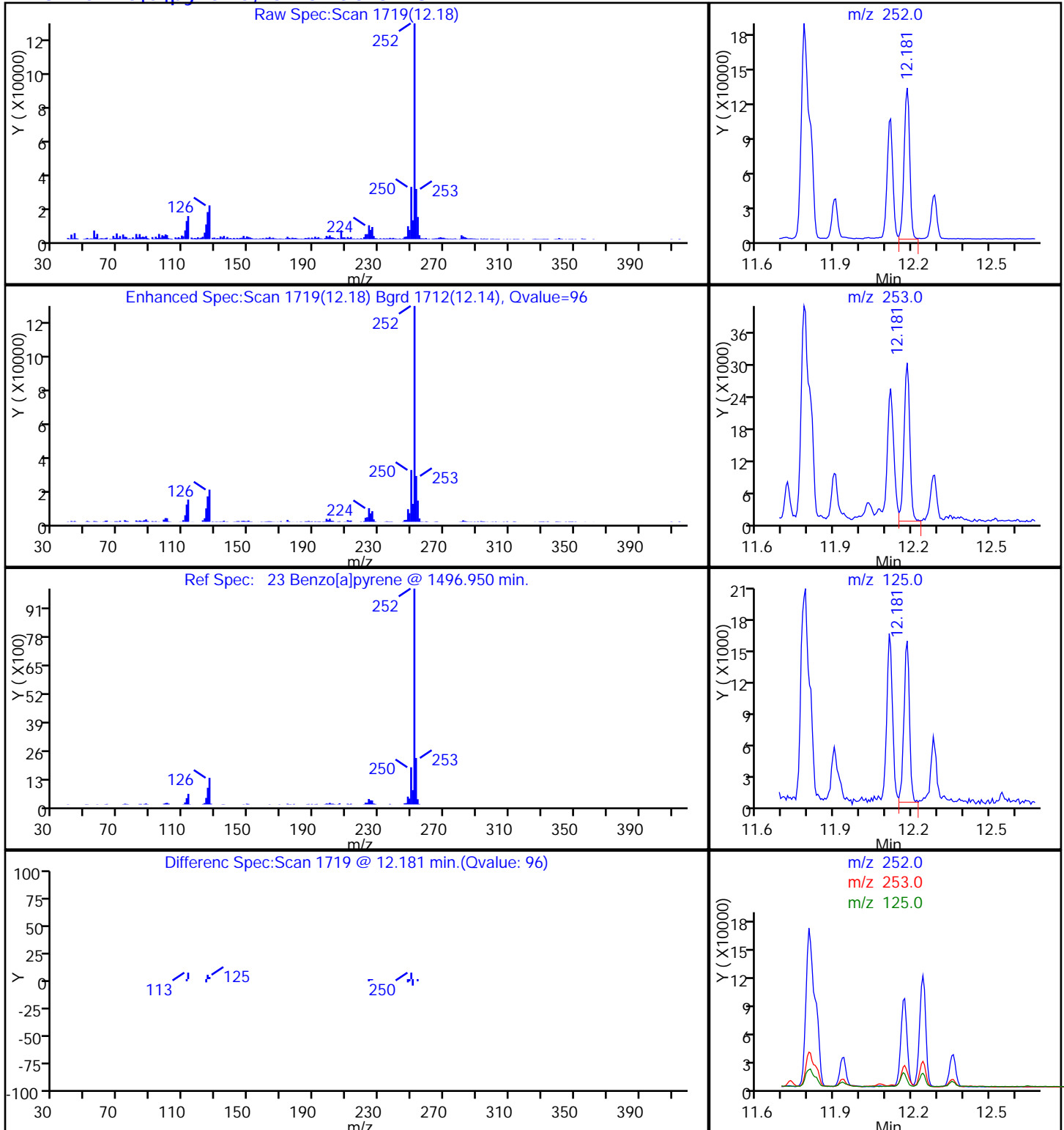
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

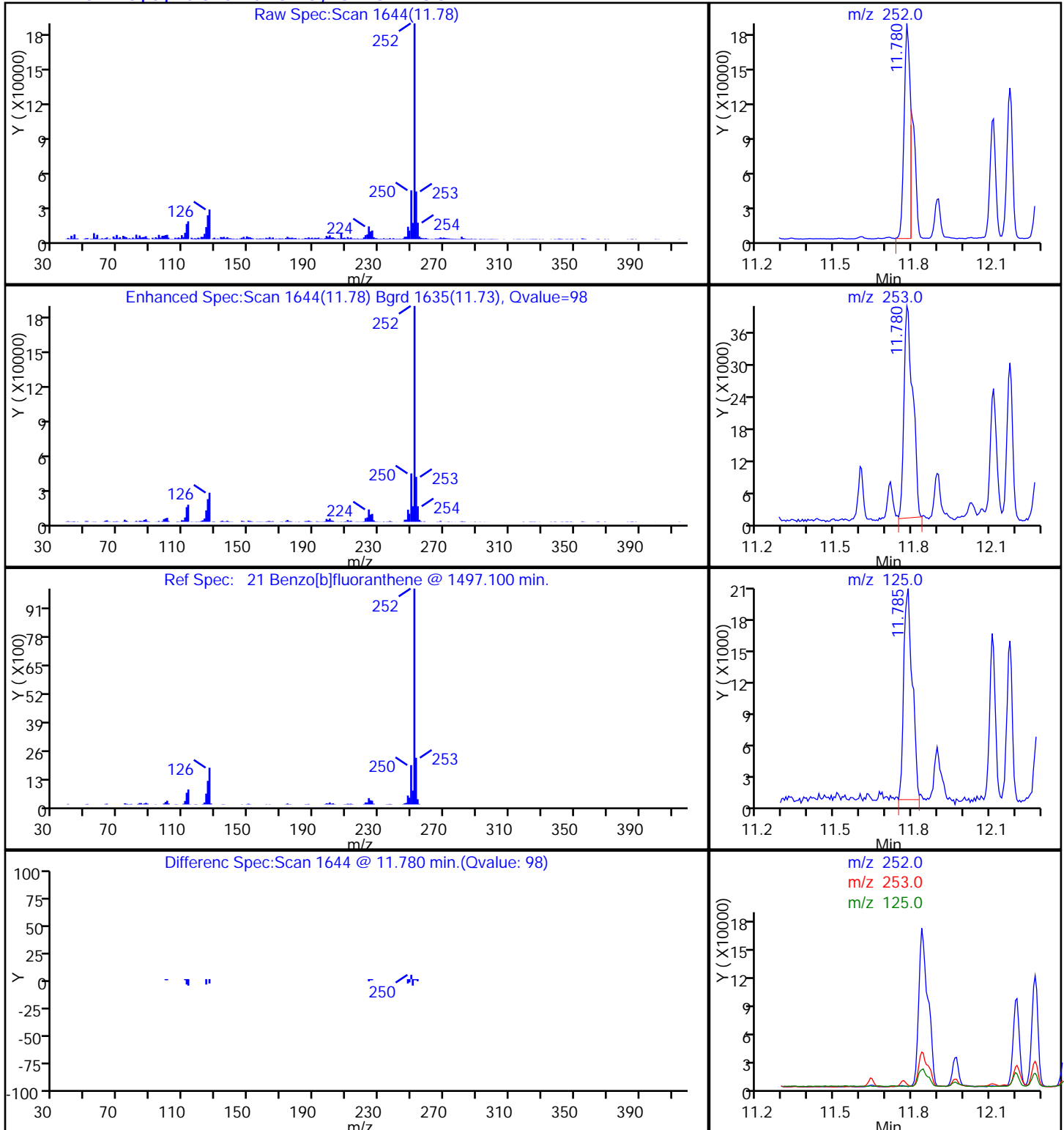
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

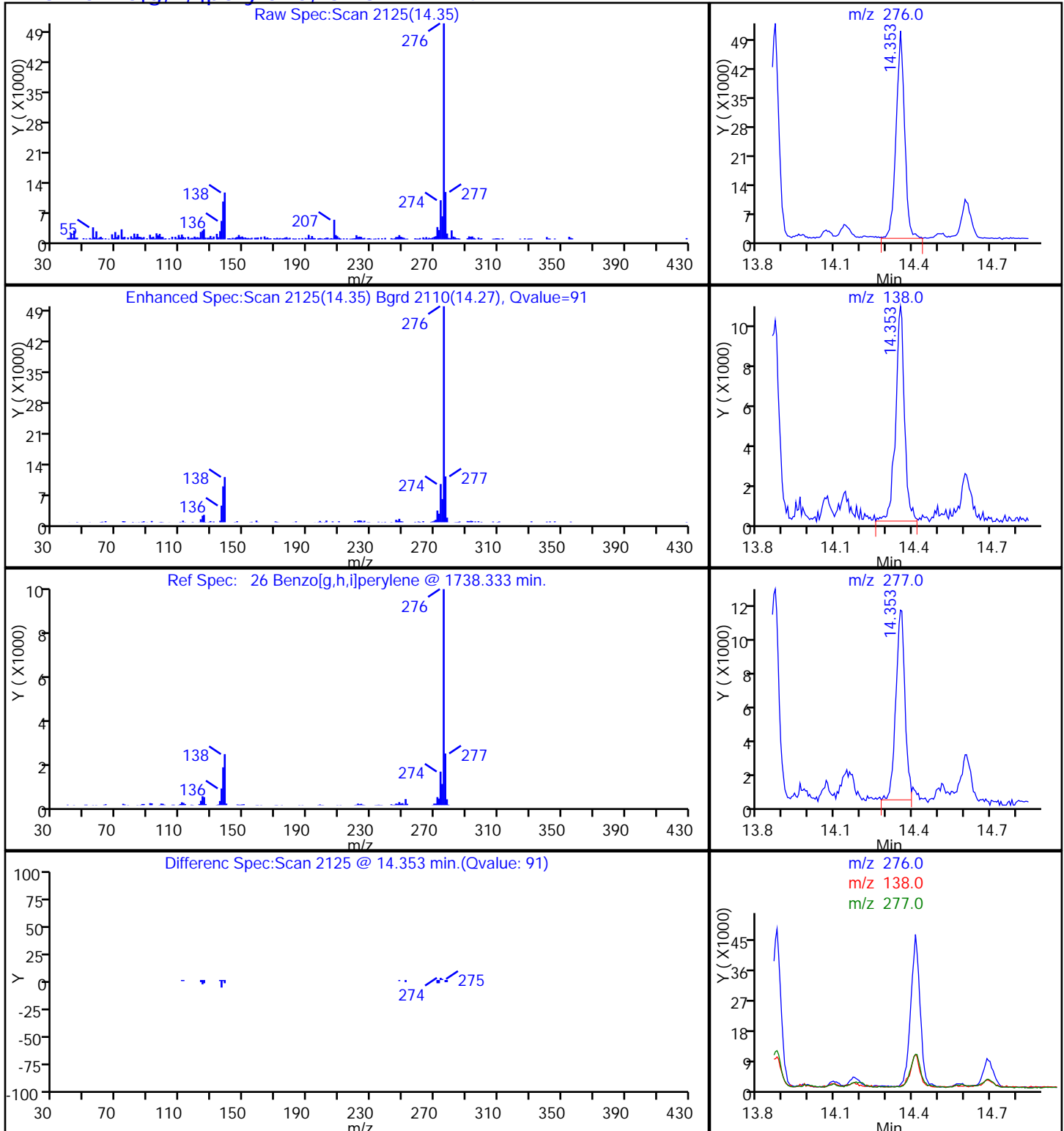
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

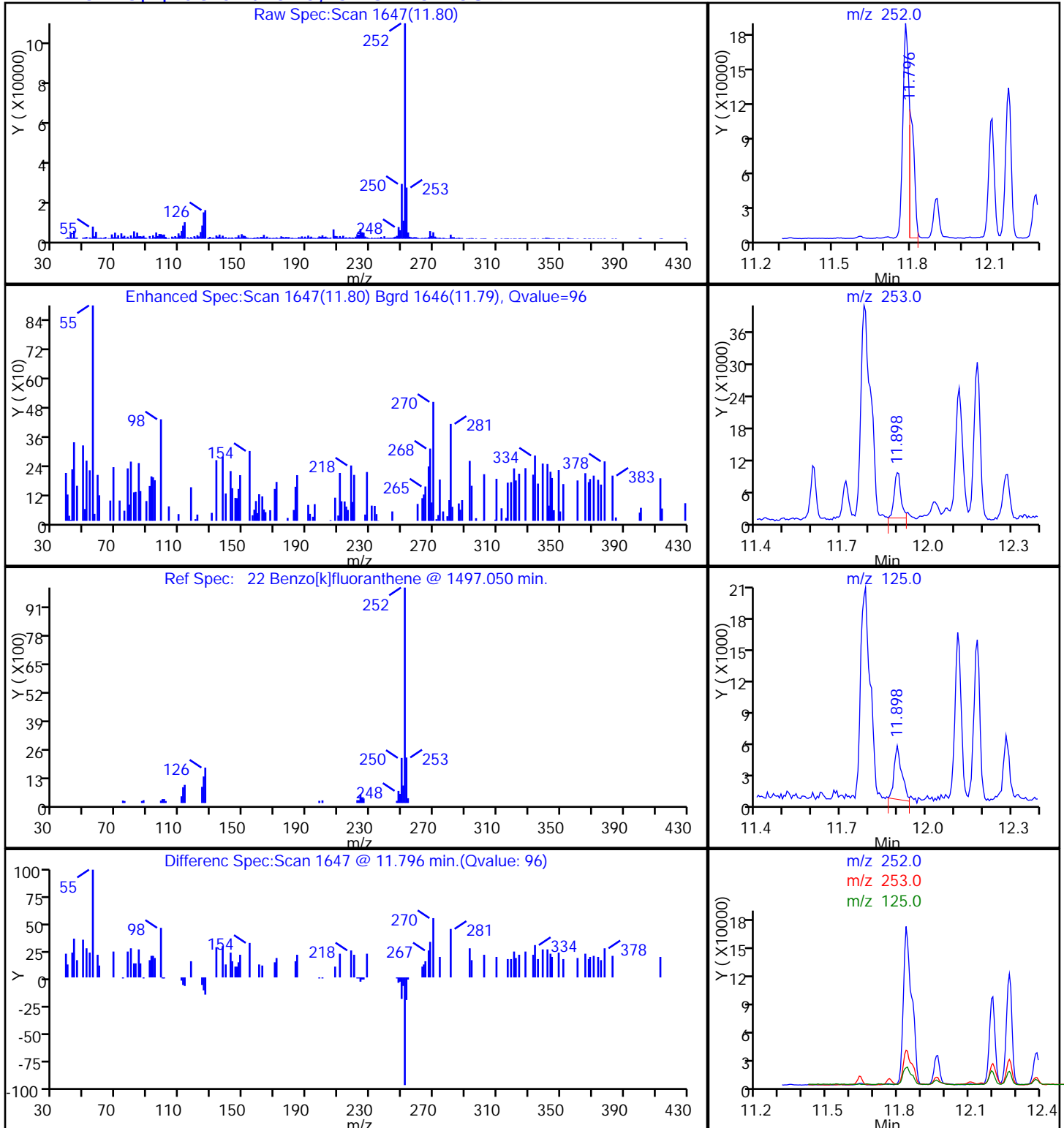
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

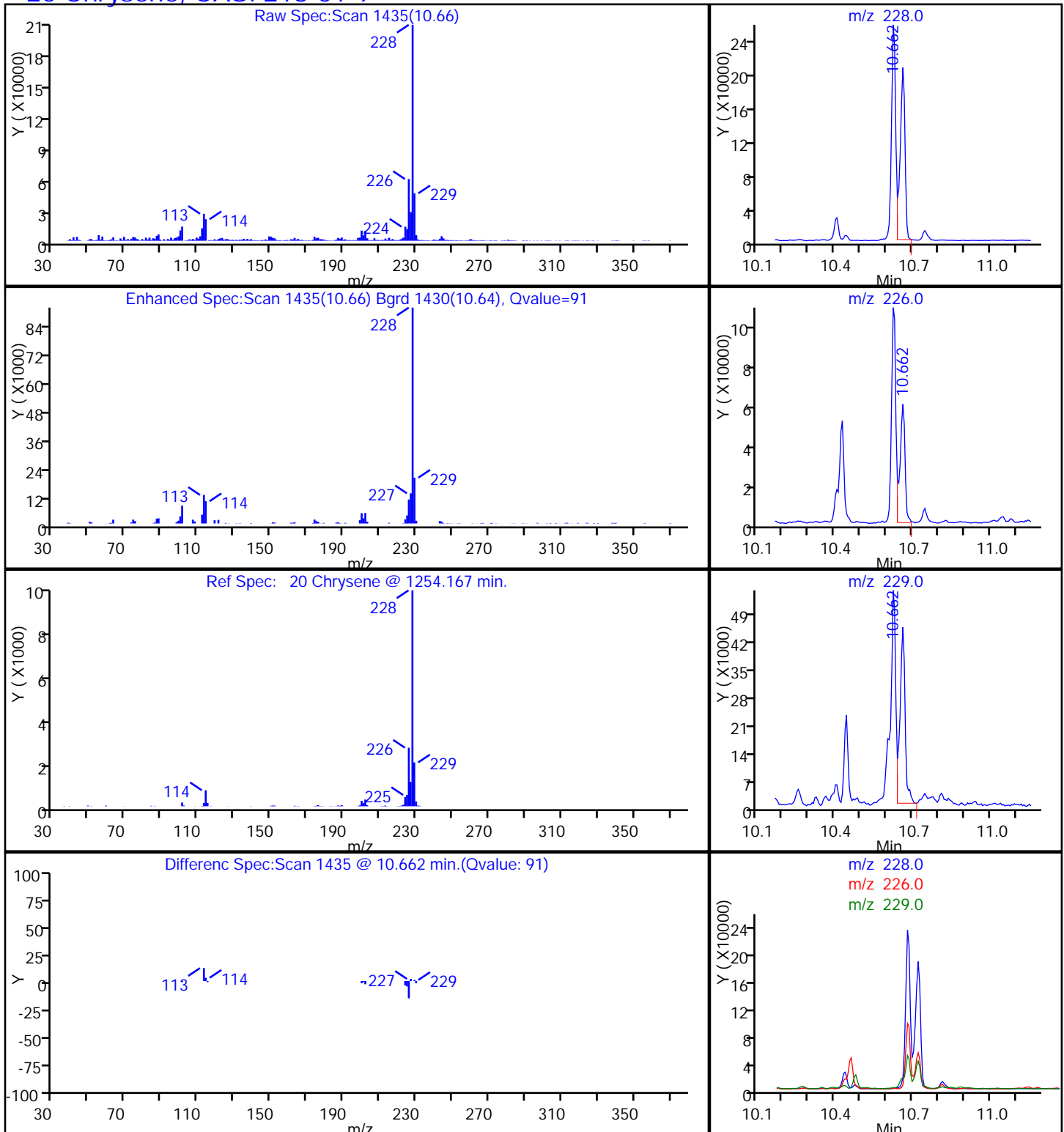
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

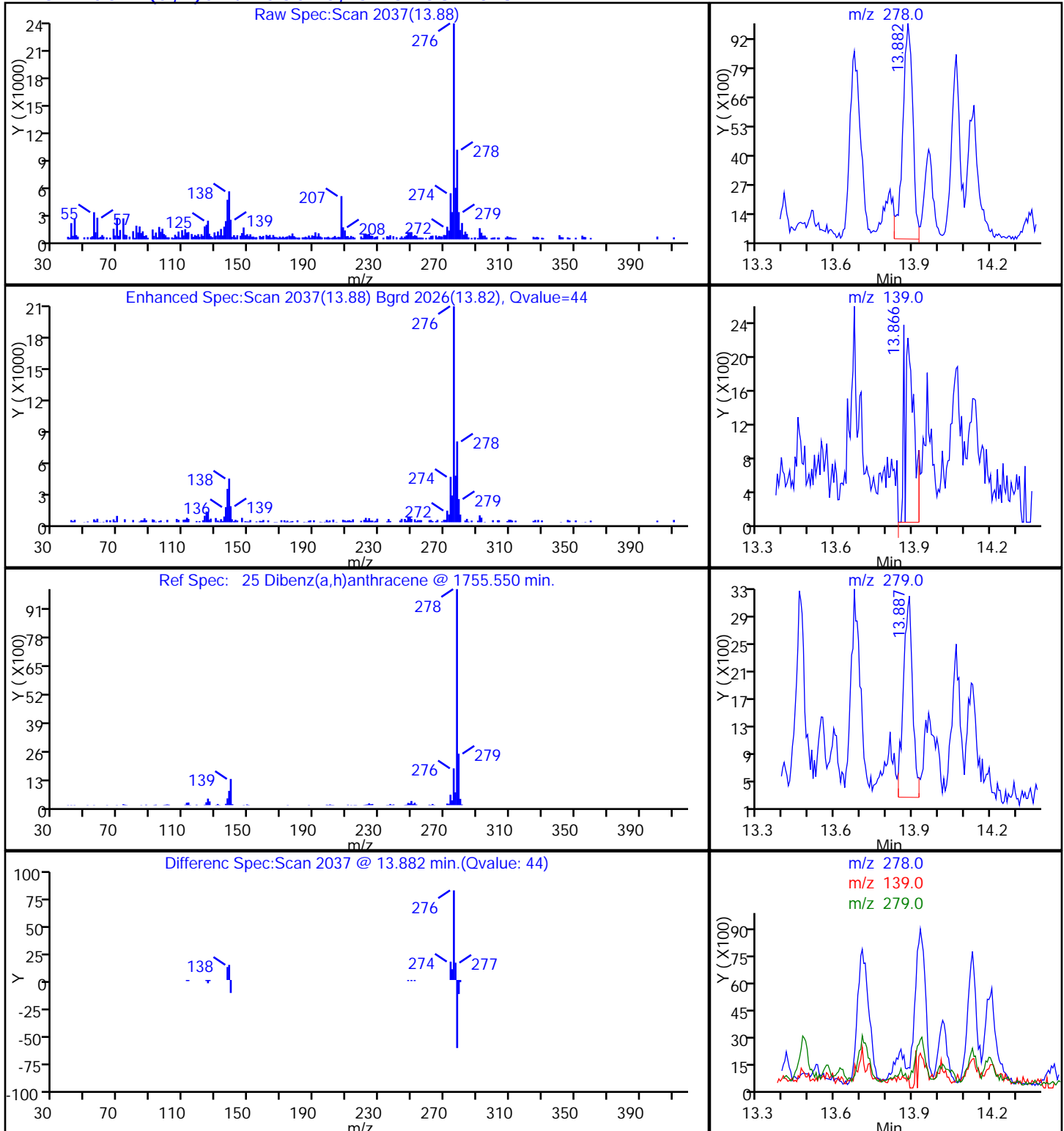
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

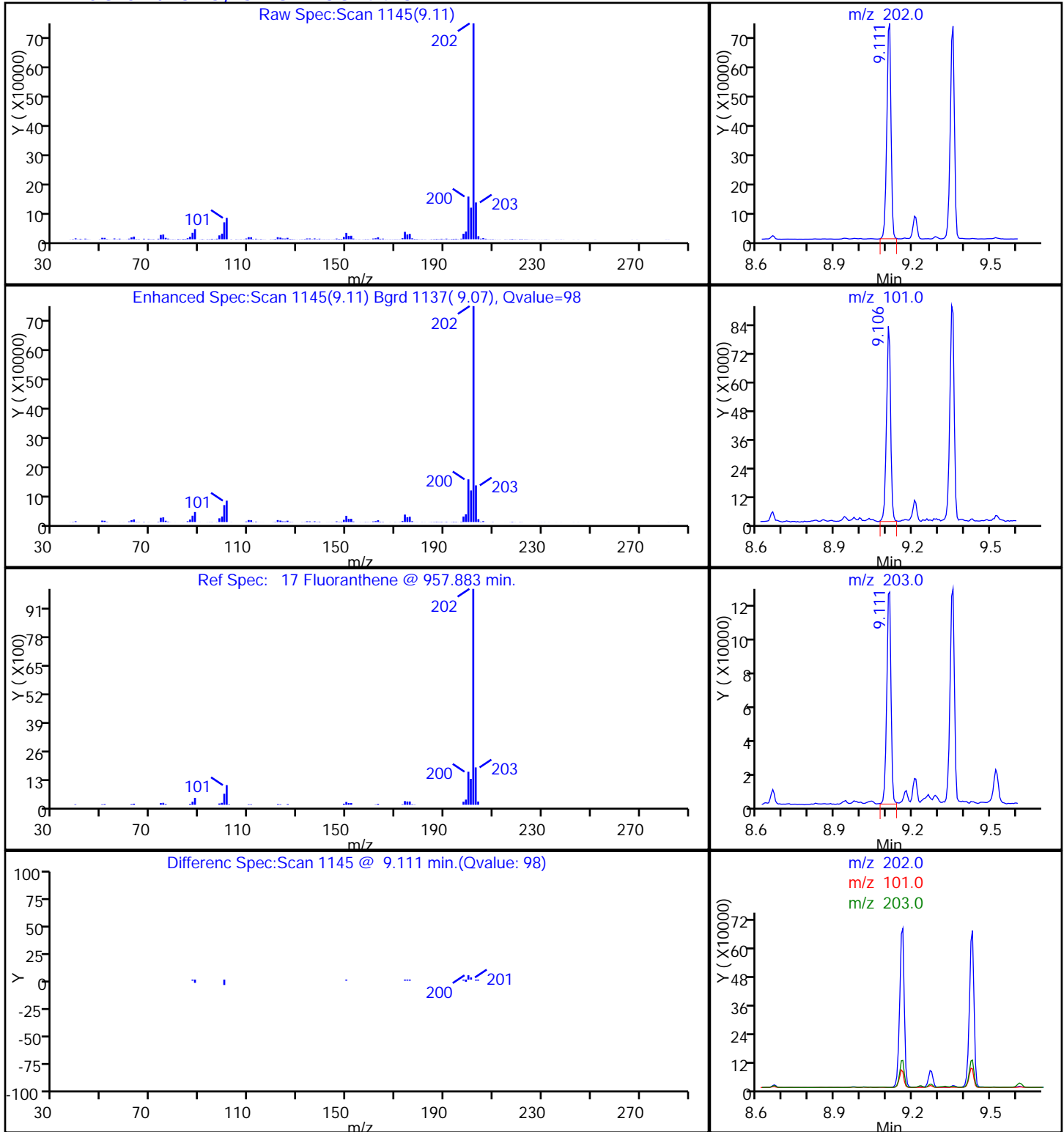
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

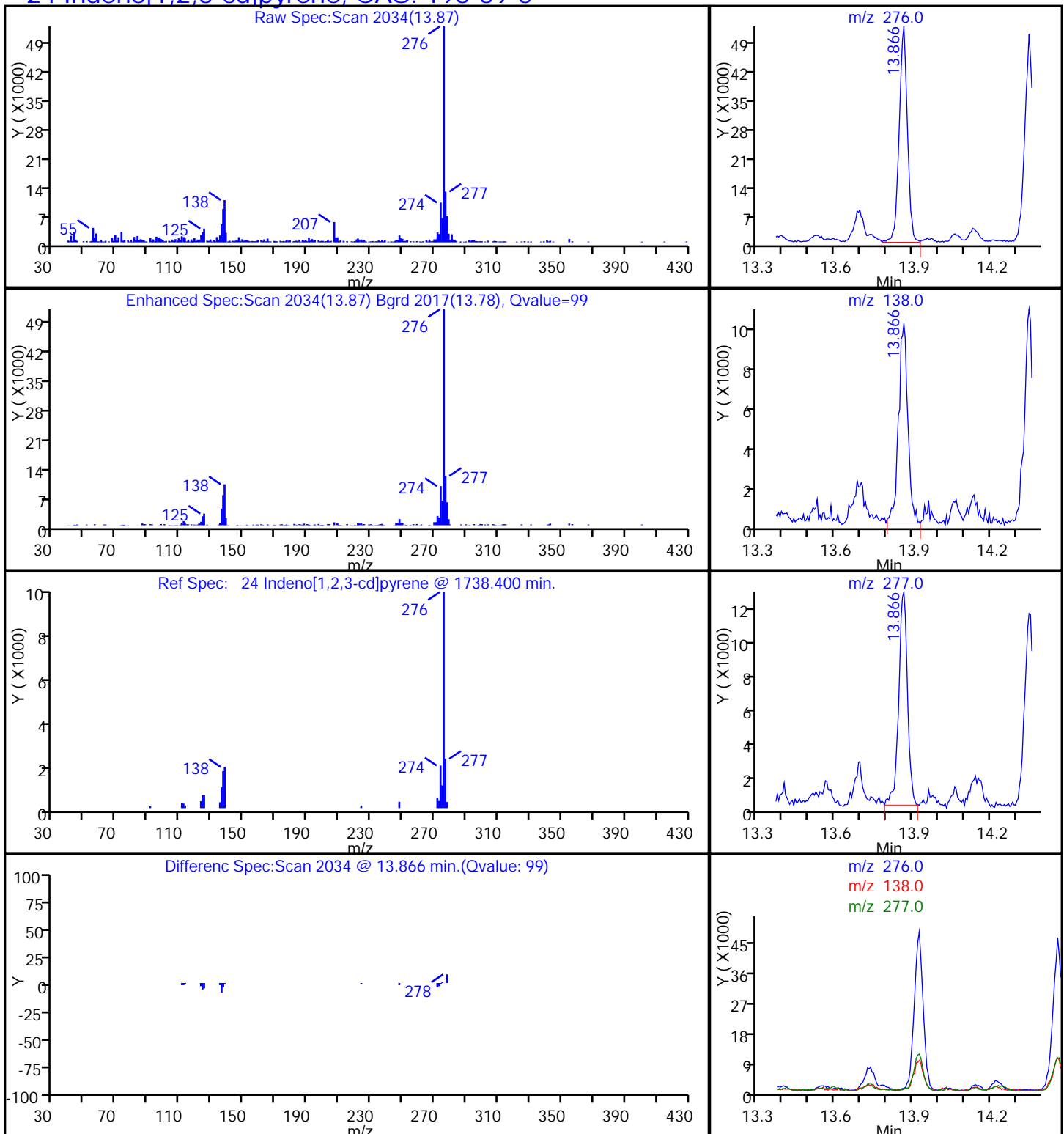
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

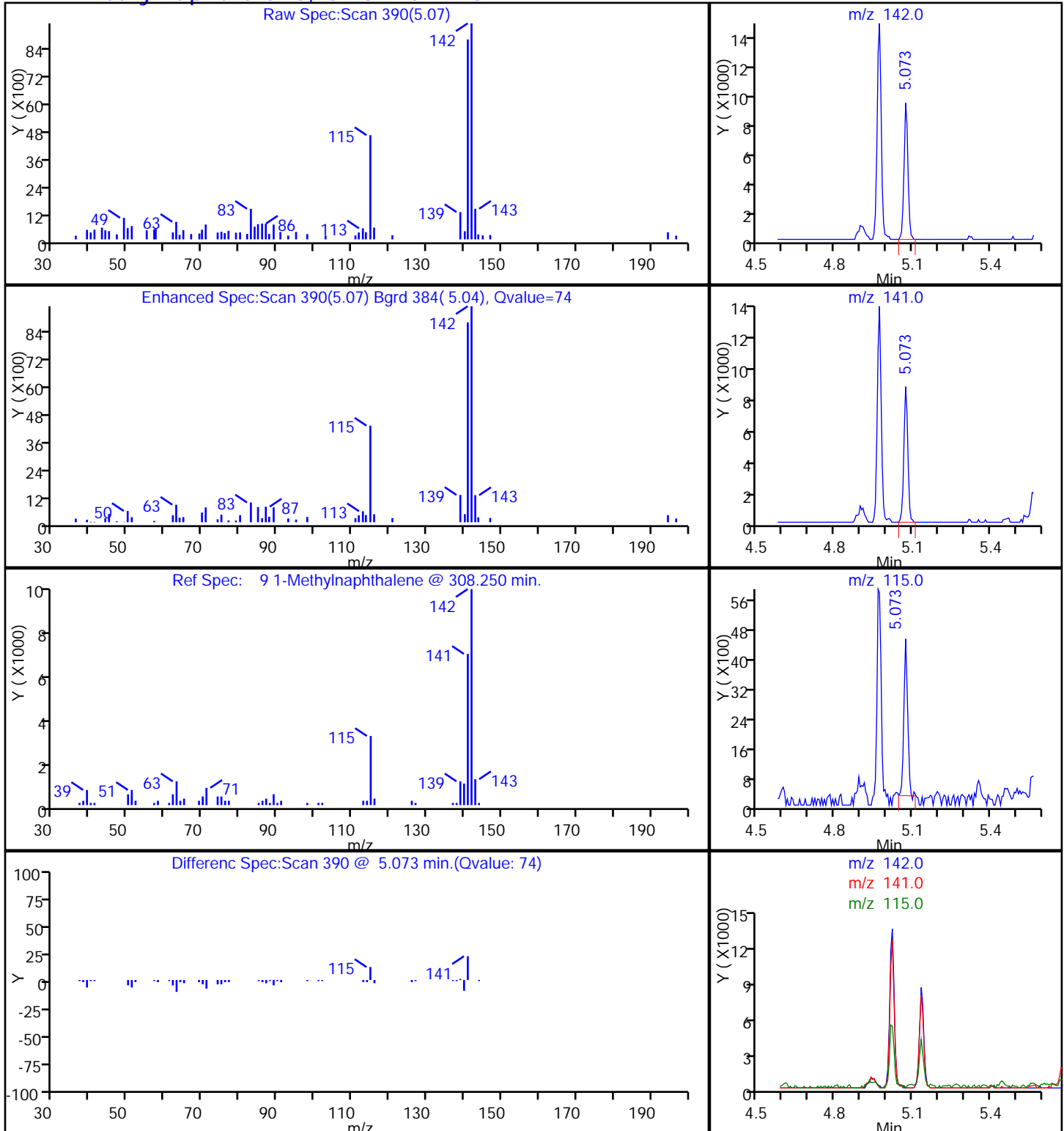
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

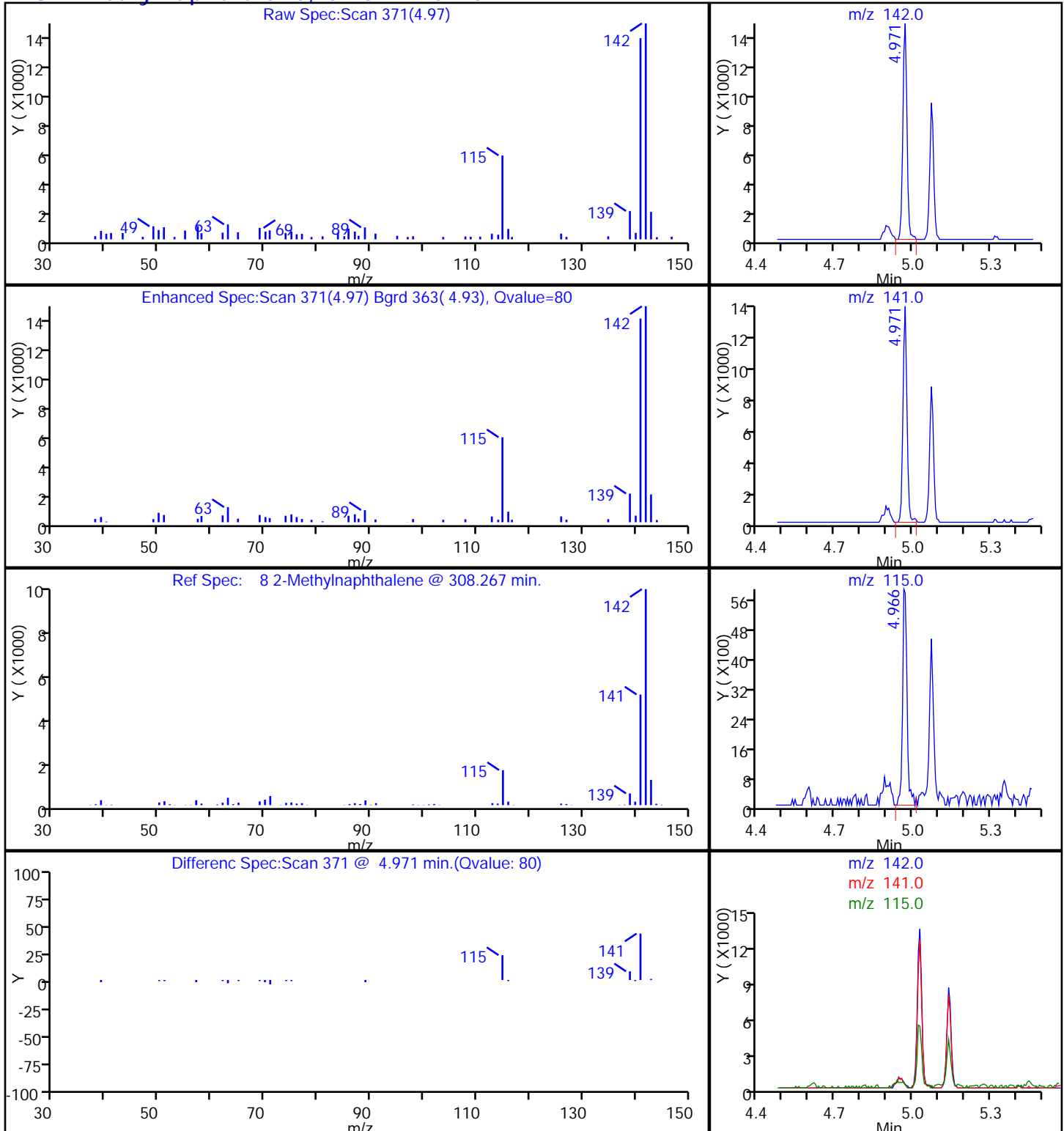
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

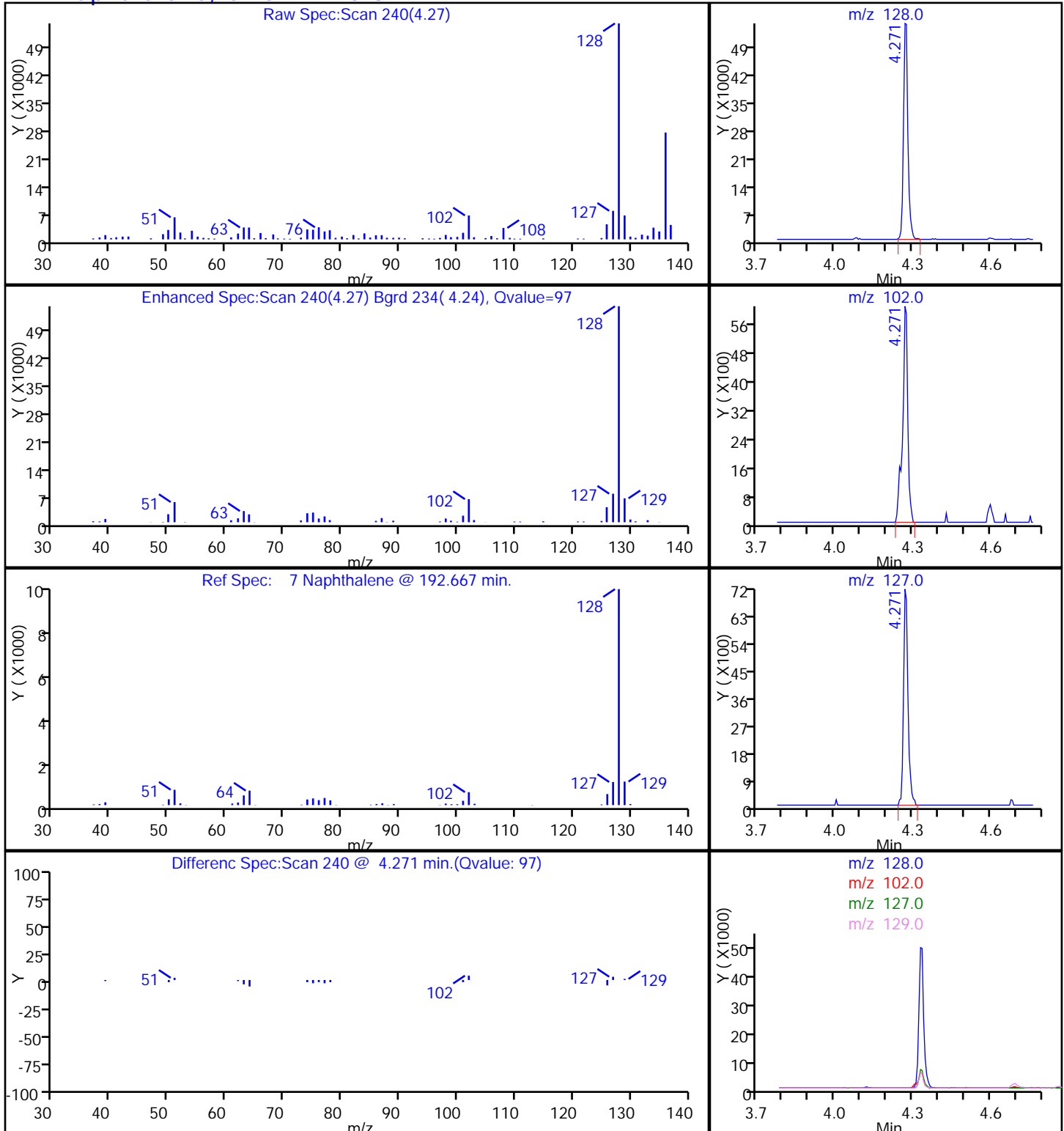
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

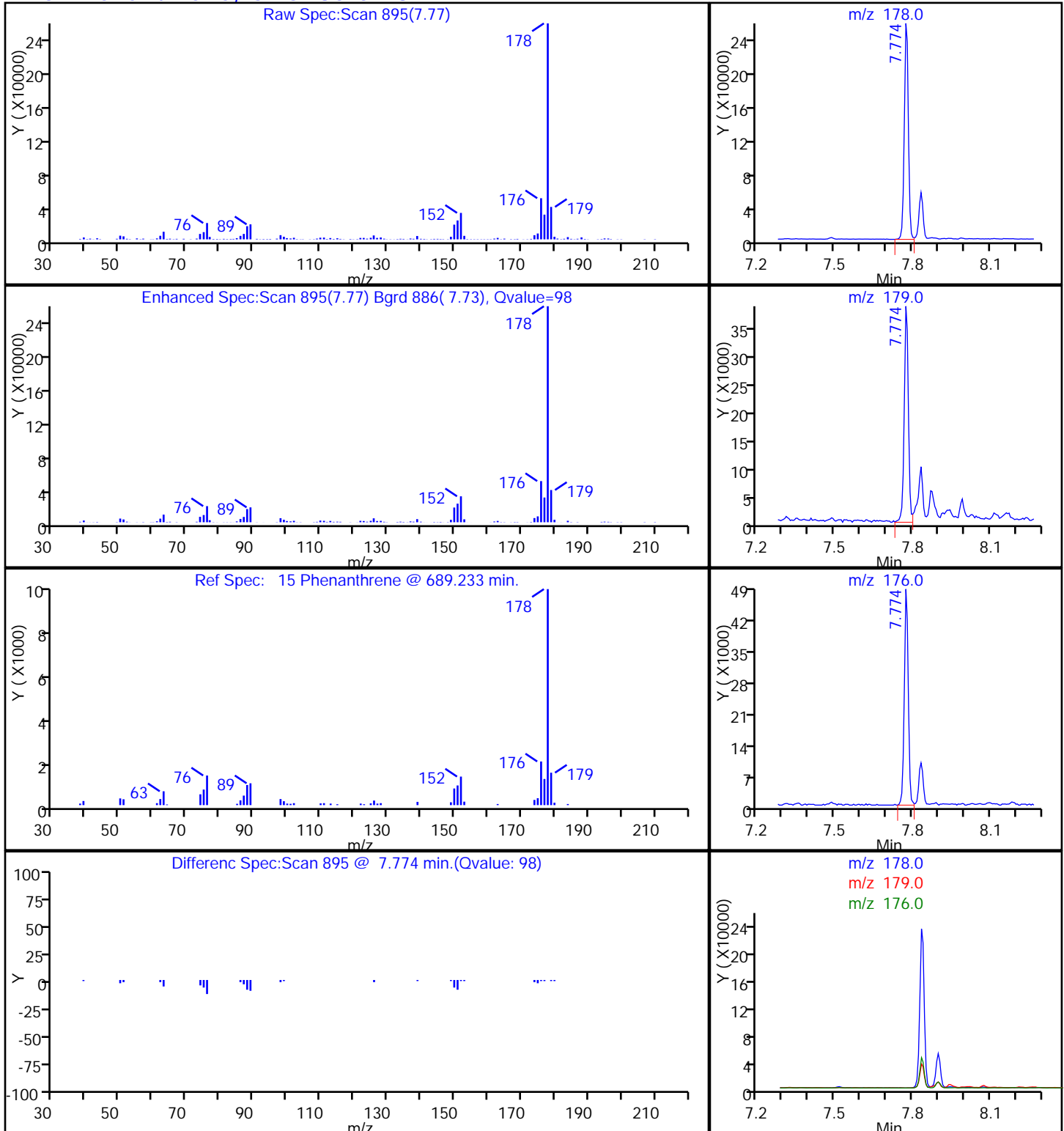
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

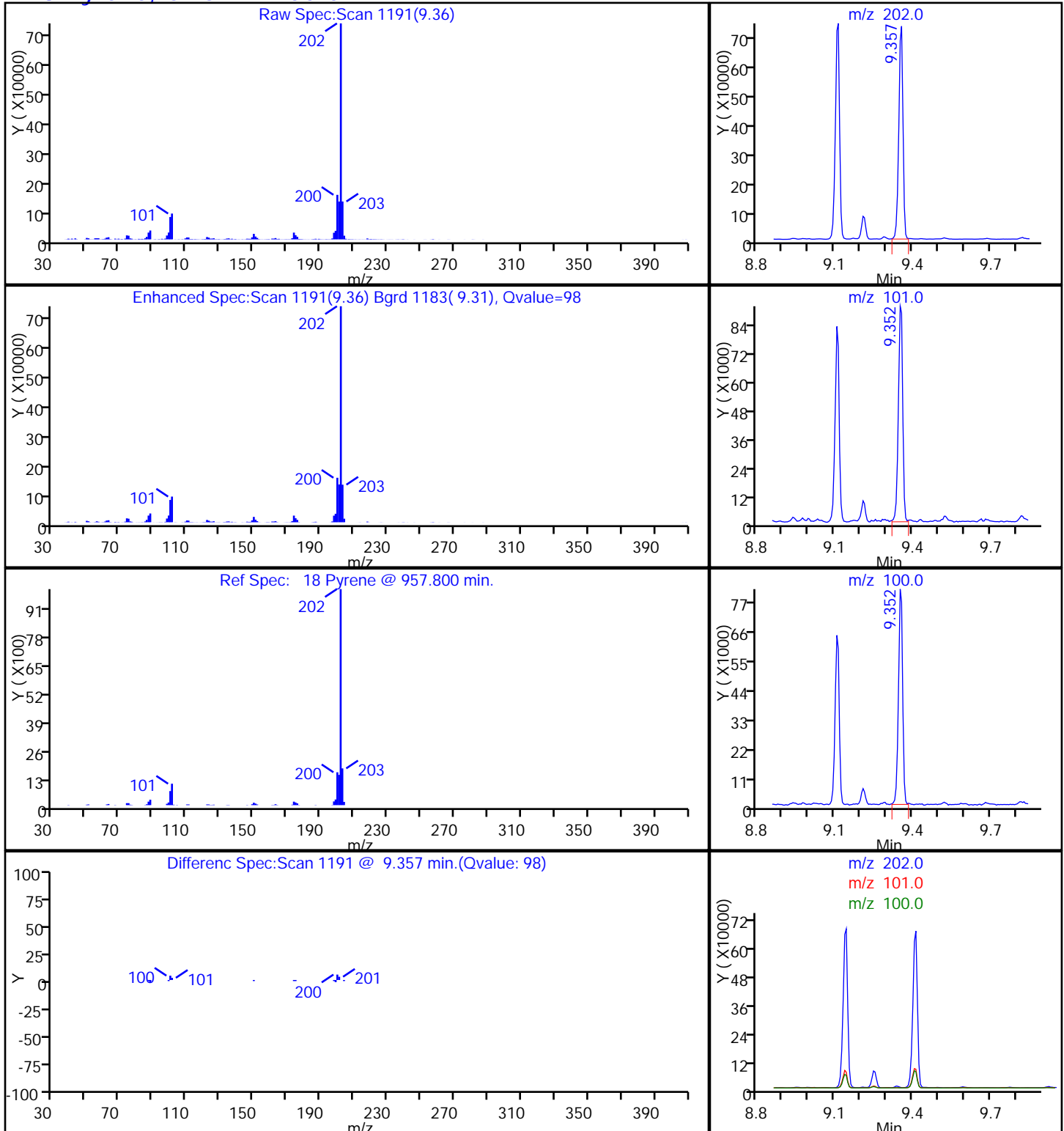
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



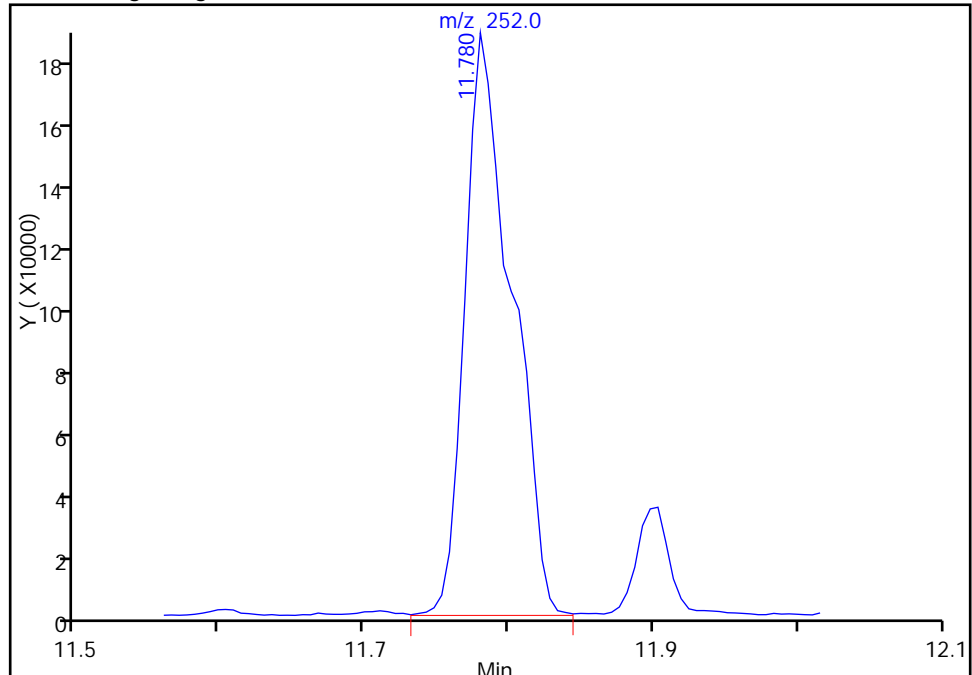
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D		
Injection Date:	25-Aug-2014 16:19:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-5-A	Lab Sample ID:	680-104534-5
Client ID:	HP0085A-CS6"		
Operator ID:	RM	ALS Bottle#:	13
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	13

21 Benzo[b]fluoranthene, CAS: 205-99-2

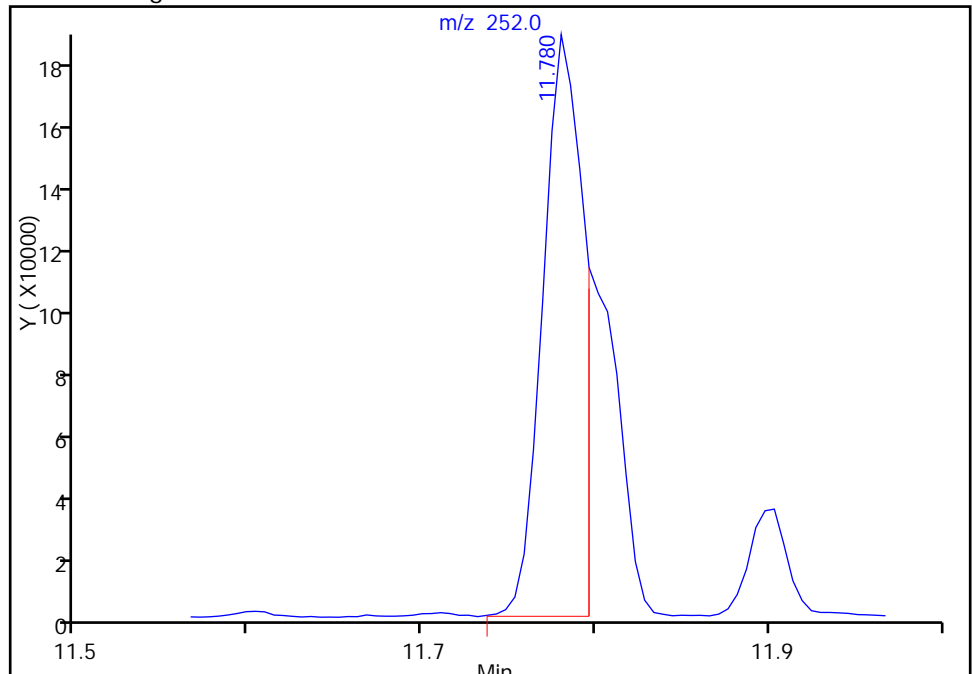
RT: 11.78
Response: 407299
Amount: 7.841315

Processing Integration Results



RT: 11.78
Response: 296361
Amount: 5.705538

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:50:00
Audit Action: Manually Integrated
Audit Reason: Split Peak

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2513.D

Injection Date: 25-Aug-2014 16:19:30

Instrument ID: CMSY

Lims ID: 680-104534-A-5-A

Lab Sample ID: 680-104534-5

Client ID: HP0085A-CS6"

Operator ID: RM

ALS Bottle#: 13

Worklist Smp#: 13

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

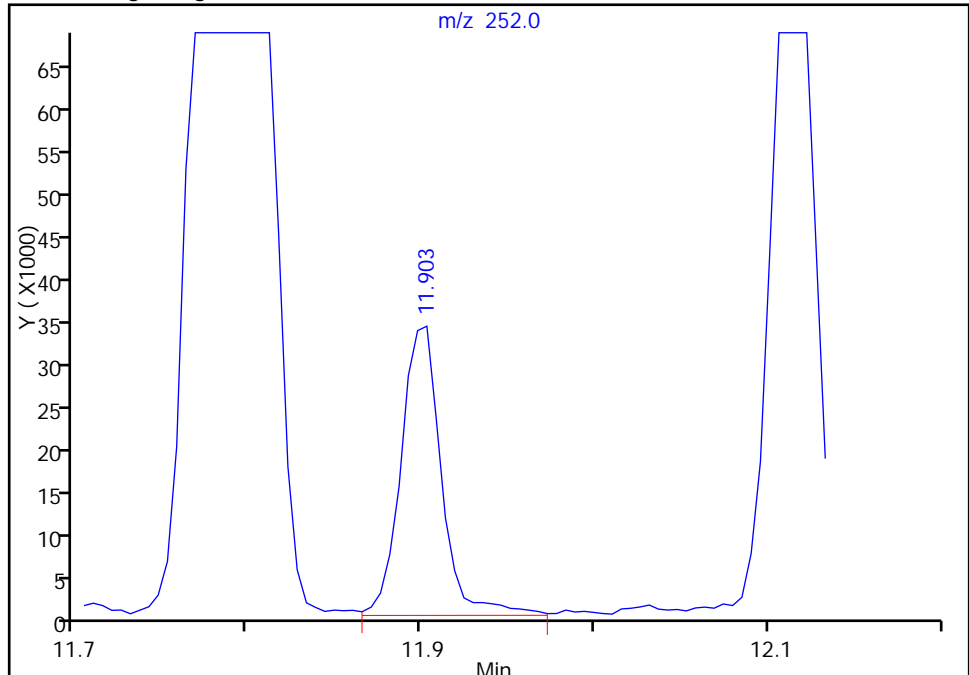
Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

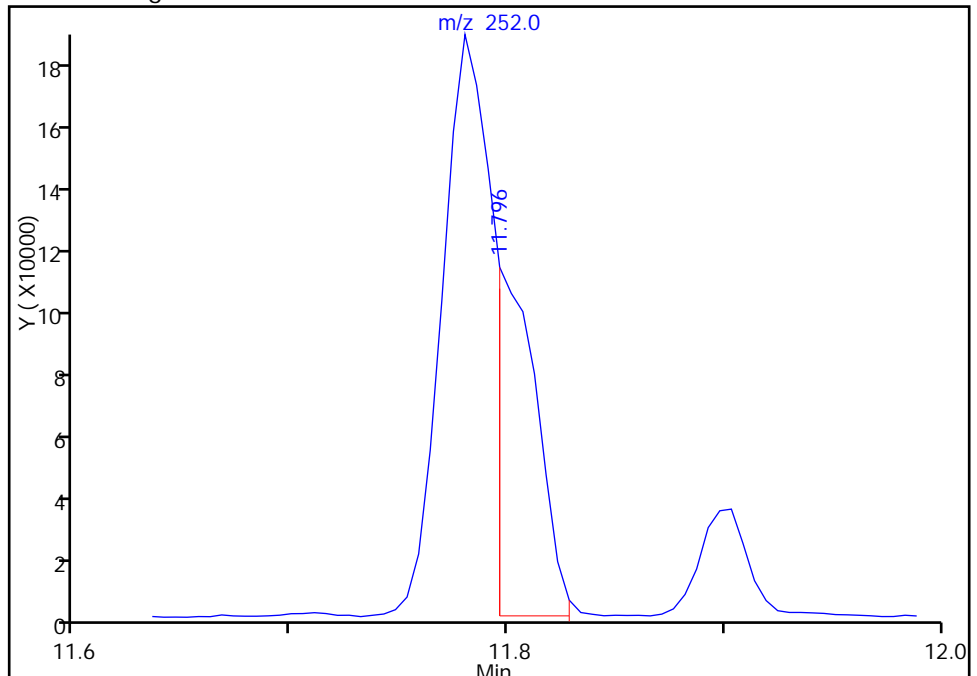
22 Benzo[k]fluoranthene, CAS: 207-08-9

RT: 11.90
Response: 54752
Amount: 1.075200

Processing Integration Results

RT: 11.80
Response: 142739
Amount: 2.803057

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 08:50:00

Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085A-CS12"</u>	Lab Sample ID: <u>680-104534-6</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2918.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 09:20</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/29/2014 16:30</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>12.0</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>346540</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.7
208-96-8	Acenaphthylene	15		7.6	3.7
120-12-7	Anthracene	17		7.6	3.7
56-55-3	Benzo[a]anthracene	140		7.6	3.7
50-32-8	Benzo[a]pyrene	150		7.6	1.4
205-99-2	Benzo[b]fluoranthene	210		7.6	3.7
191-24-2	Benzo[g,h,i]perylene	110		7.6	3.7
207-08-9	Benzo[k]fluoranthene	80		7.6	2.3
218-01-9	Chrysene	130		7.6	3.7
53-70-3	Dibenz(a,h)anthracene	27		7.6	3.7
206-44-0	Fluoranthene	260		7.6	3.7
86-73-7	Fluorene	7.6	U	7.6	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	74		7.6	3.7
90-12-0	1-Methylnaphthalene	7.6	U	7.6	3.5
91-57-6	2-Methylnaphthalene	4.7	J	7.6	3.7
91-20-3	Naphthalene	12		7.6	3.7
85-01-8	Phenanthrene	79		7.6	2.7
129-00-0	Pyrene	250		7.6	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	105		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D
 Lims ID: 680-104534-A-6-A Lab Sample ID: 680-104534-6
 Client ID: HP0085A-CS12"
 Sample Type: Client
 Inject. Date: 29-Aug-2014 16:30:30 ALS Bottle#: 17 Worklist Smp#: 18
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-6-A
 Misc. Info.: 680-0012365-018
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 02-Sep-2014 16:06:14 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK008

First Level Reviewer: webbk

Date: 02-Sep-2014 10:50:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.206	4.212	-0.006	99	302548	2.00	
* 2 Acenaphthene-d10	164	6.046	6.046	0.000	93	166000	2.00	
* 3 Phenanthrene-d10	188	7.710	7.704	0.006	98	267465	2.00	
* 4 Chrysene-d12	240	10.598	10.598	0.000	95	209366	2.00	
* 5 Perylene-d12	264	12.203	12.192	0.011	98	135002	2.00	
\$ 6 o-Terphenyl	230	8.148	8.148	0.000	89	174285	2.10	
7 Naphthalene	128	4.223	4.233	-0.010	99	48692	0.3094	
8 2-Methylnaphthalene	142	4.923	4.929	-0.006	75	12192	0.1248	
9 1-Methylnaphthalene	142	5.030	5.030	0.000	61	7975	0.0831	
11 Acenaphthylene	152	5.891	5.891	0.000	97	61077	0.4039	
15 Phenanthrene	178	7.731	7.731	0.000	98	314989	2.09	
16 Anthracene	178	7.790	7.790	0.000	98	62108	0.4406	
17 Fluoranthene	202	9.068	9.063	0.005	98	1029935	6.91	
18 Pyrene	202	9.314	9.309	0.005	98	1002690	6.65	
19 Benzo[a]anthracene	228	10.587	10.587	0.000	97	413332	3.65	
20 Chrysene	228	10.625	10.625	0.000	94	363701	3.31	
21 Benzo[b]fluoranthene	252	11.732	11.727	0.005	97	468765	5.47	M
22 Benzo[k]fluoranthene	252	11.753	11.759	-0.006	86	170579	2.10	M
23 Benzo[a]pyrene	252	12.128	12.128	0.000	96	284436	4.03	
24 Indeno[1,2,3-cd]pyrene	276	13.791	13.791	0.000	98	166384	1.94	
25 Dibenz(a,h)anthracene	278	13.813	13.818	-0.005	57	36857	0.7091	
26 Benzo[g,h,i]perylene	276	14.278	14.273	0.005	86	164439	2.83	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Worklist Smp#: 18

Client ID: HP0085A-CS12"

Injection Vol: 2.0 ul

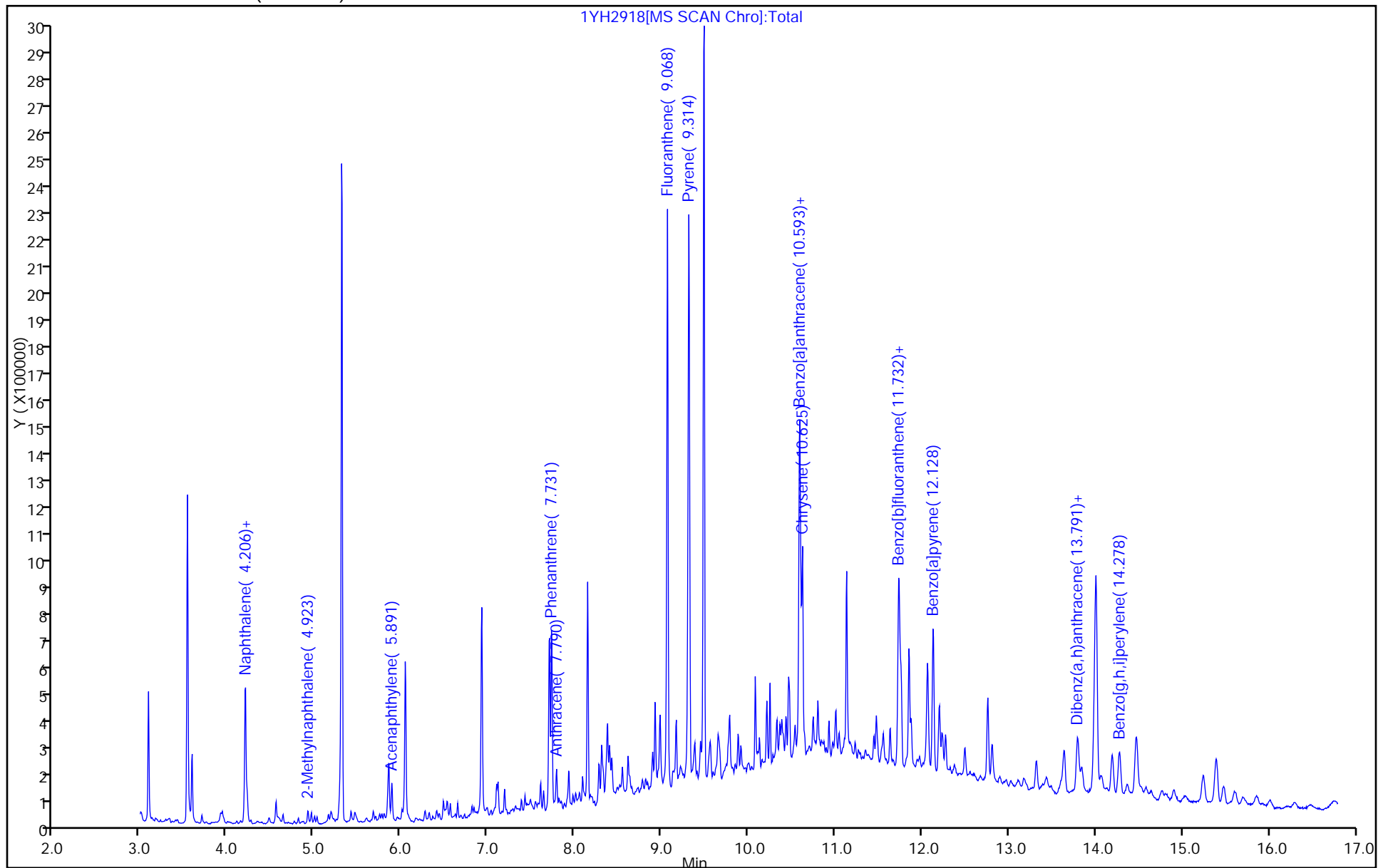
Dil. Factor: 1.0000

ALS Bottle#: 17

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

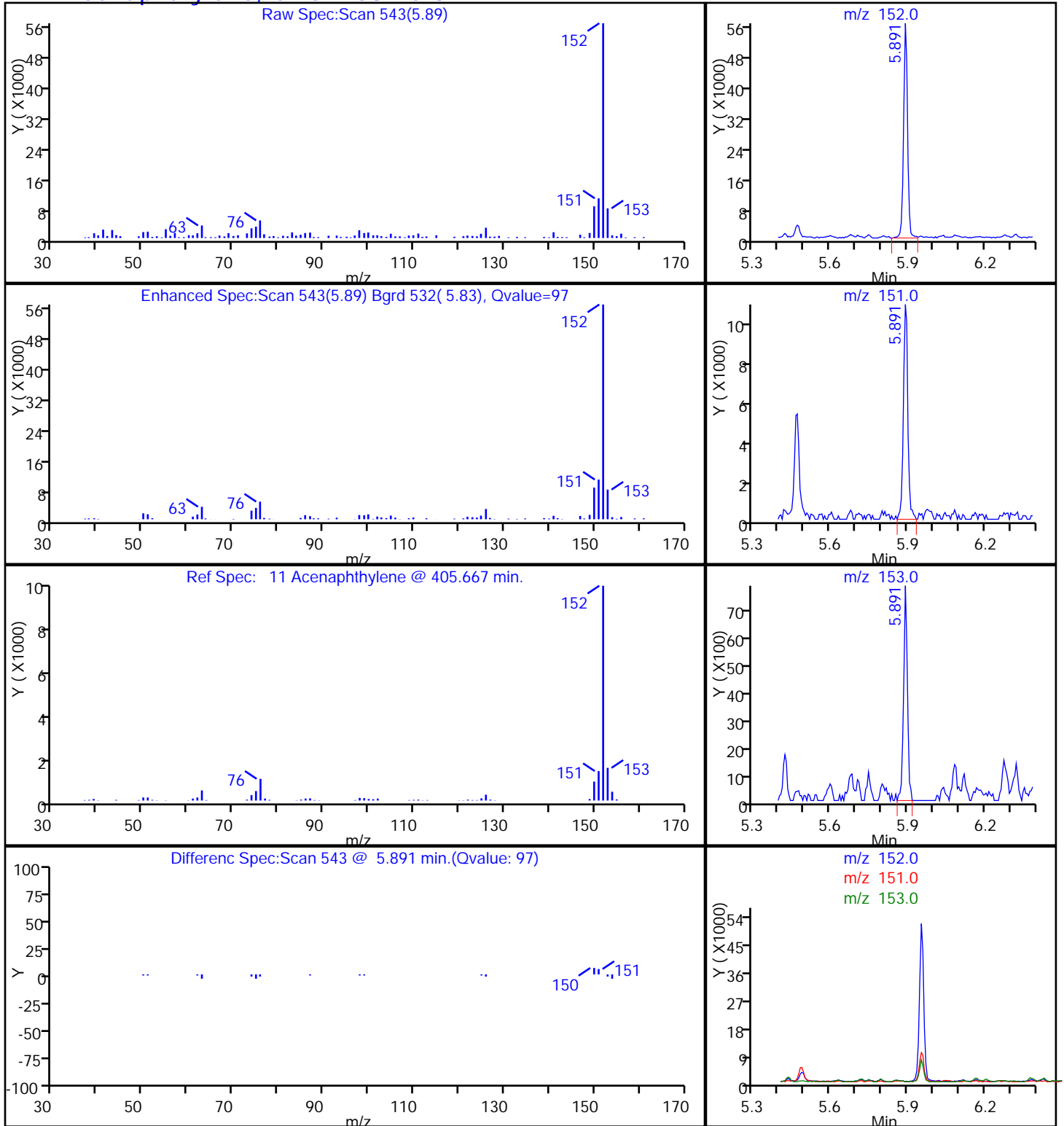
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

11 Acenaphthylene, CAS: 208-96-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

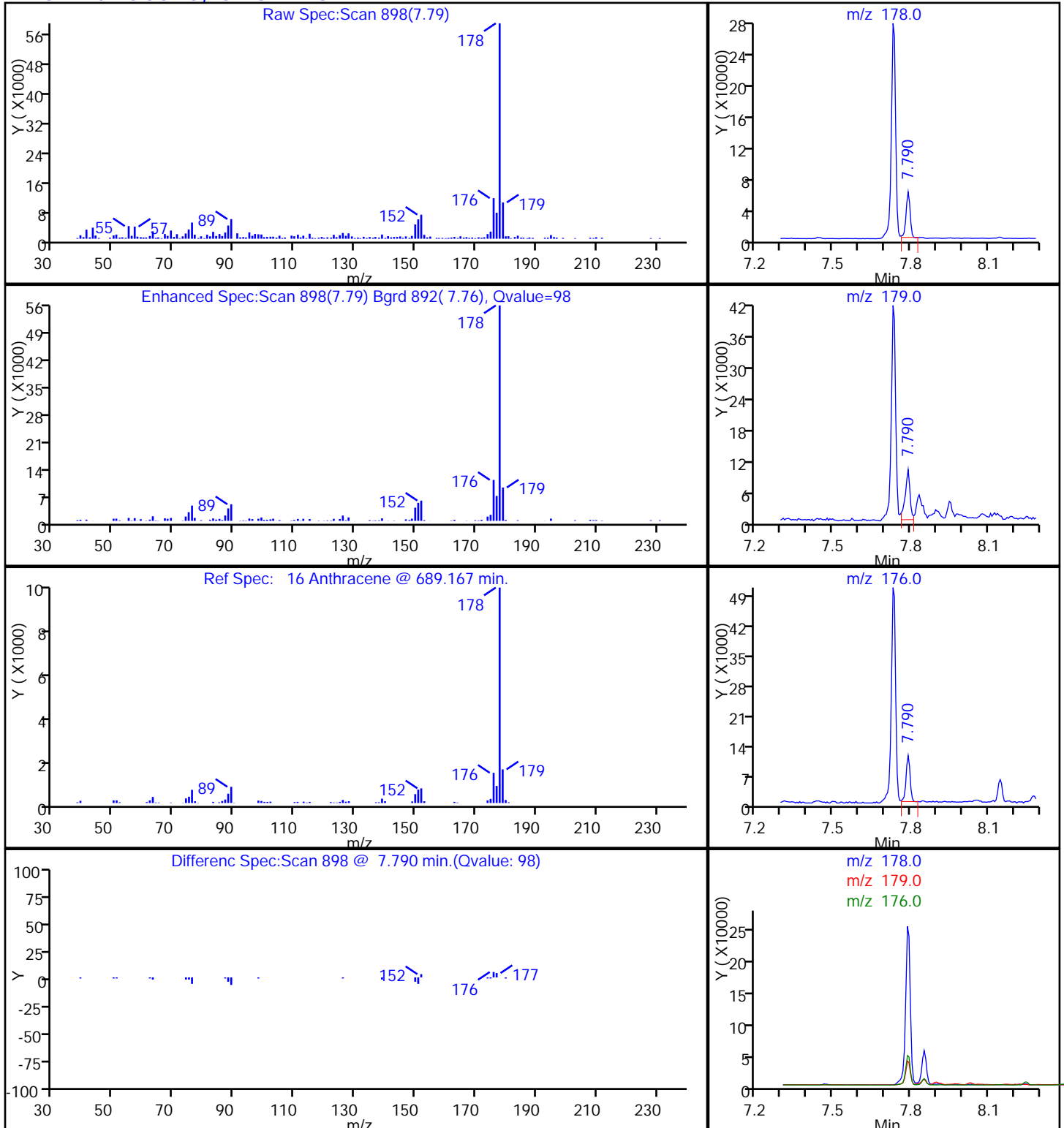
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

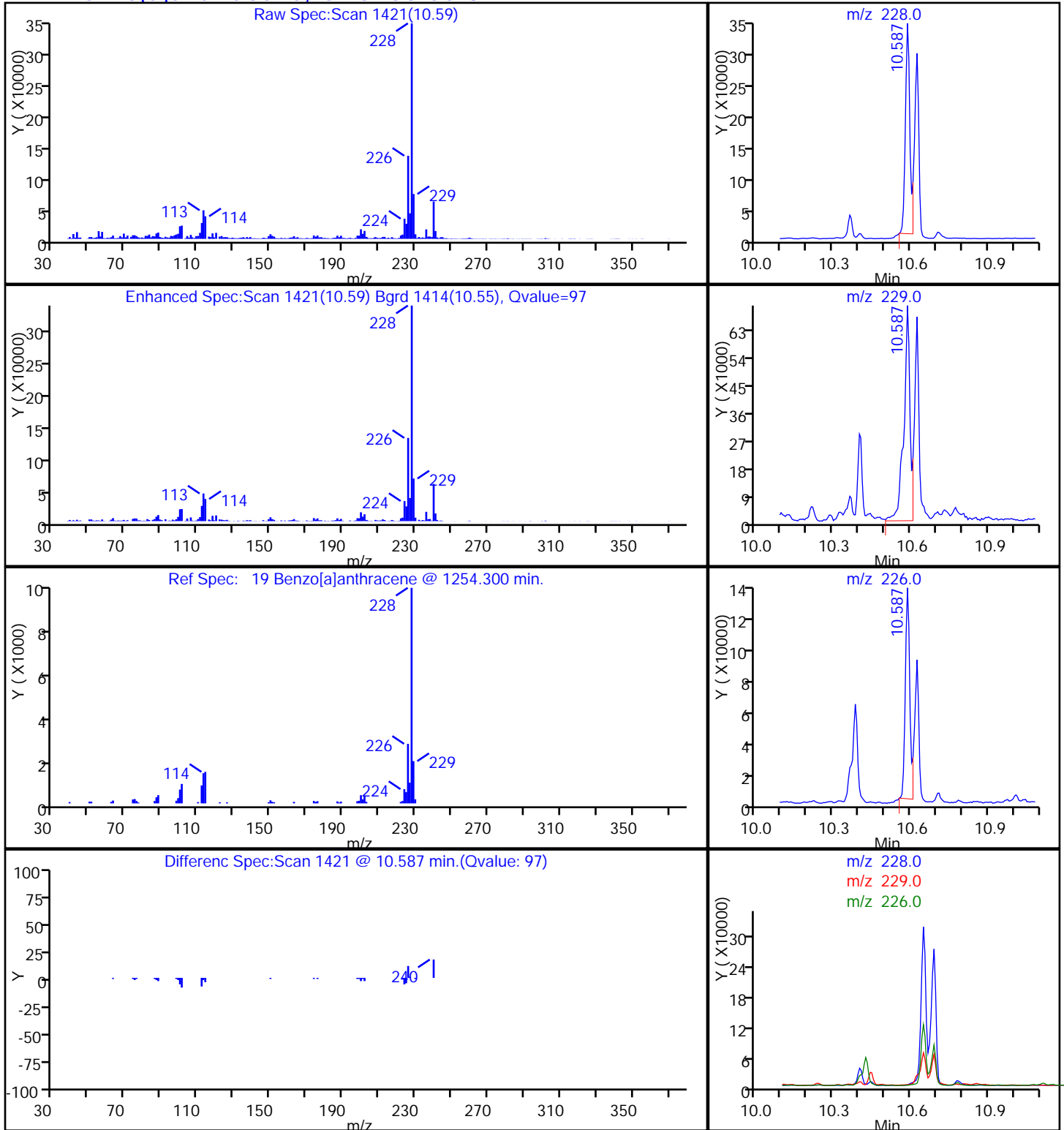
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

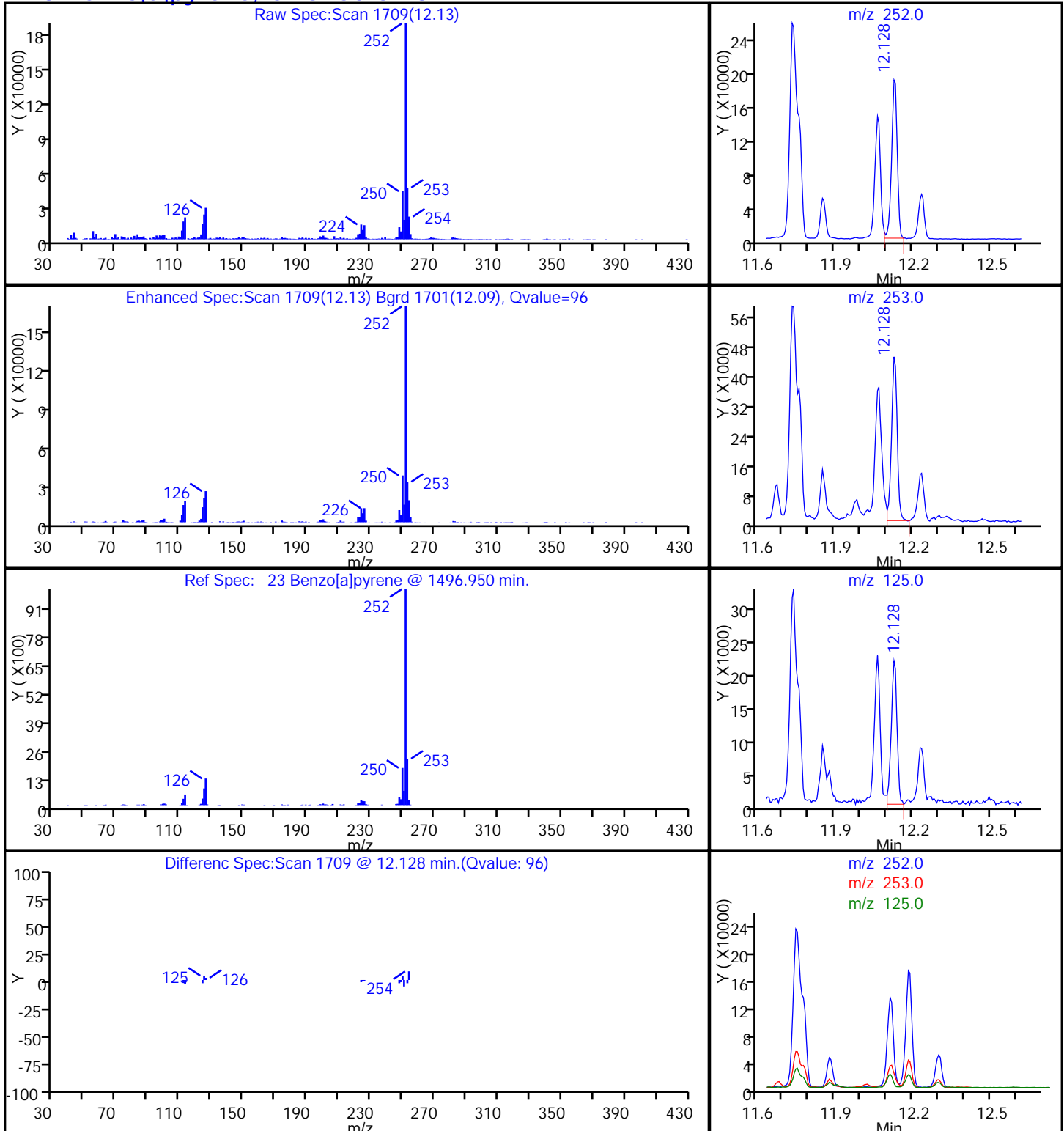
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

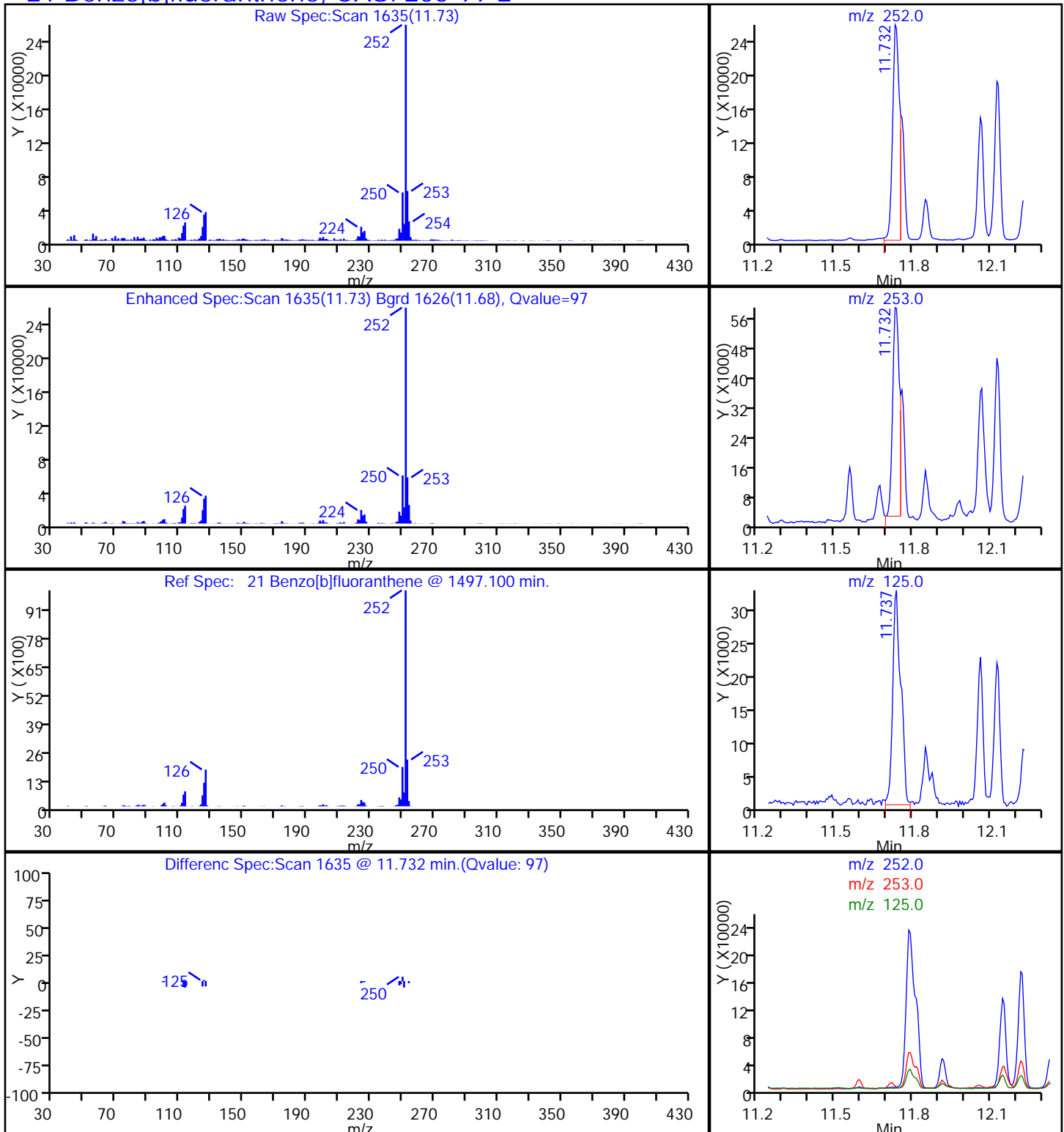
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

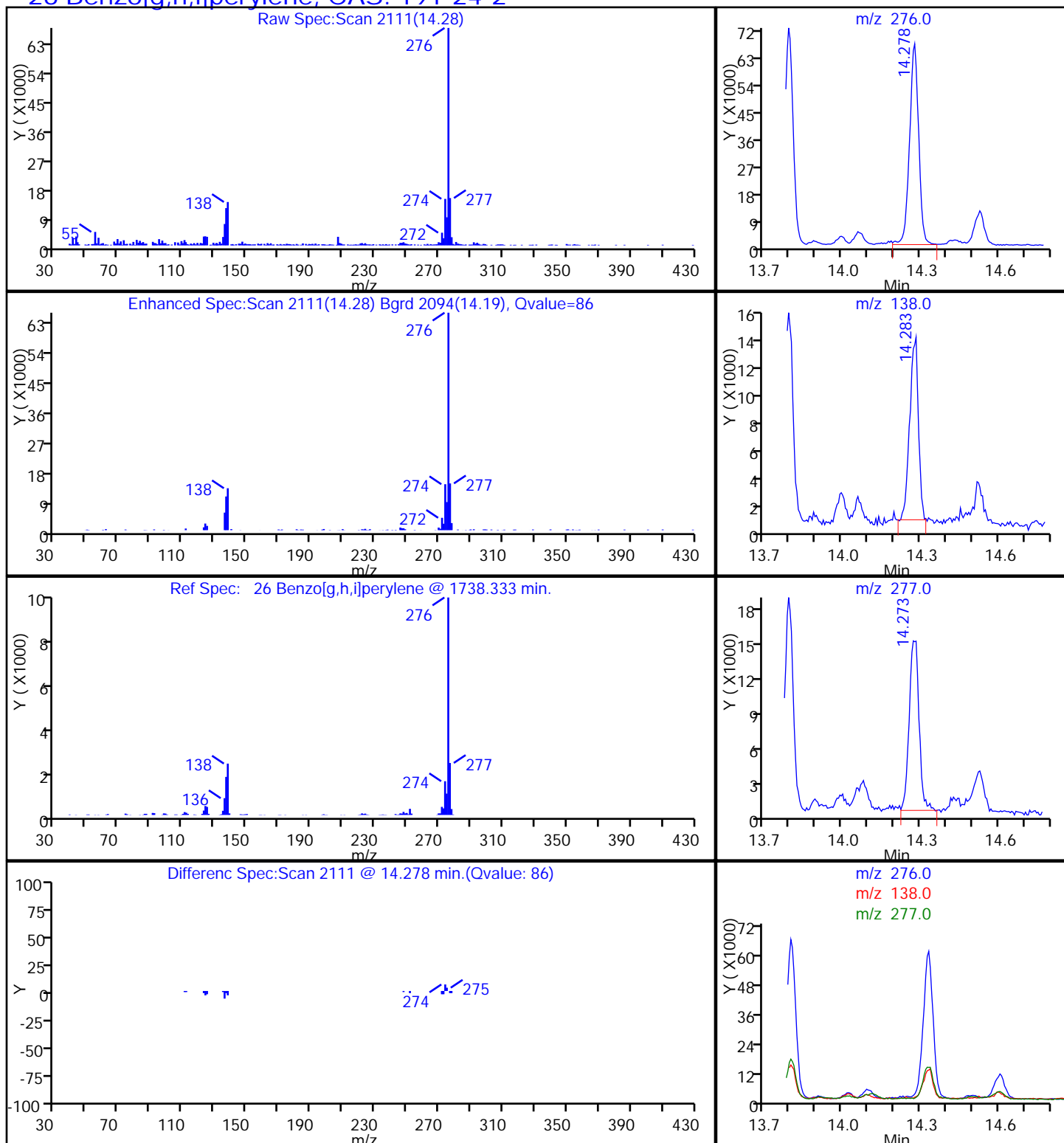
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

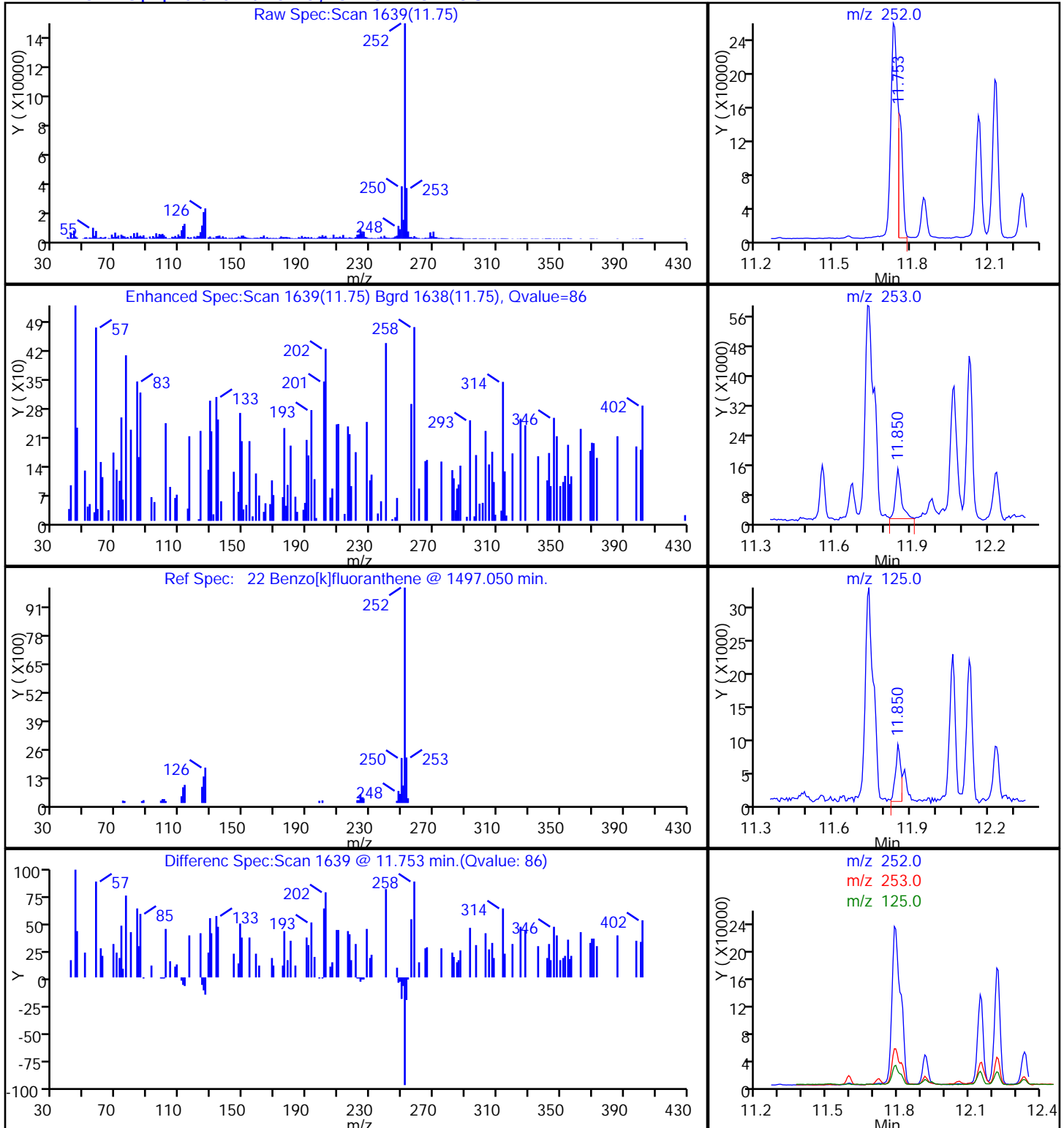
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

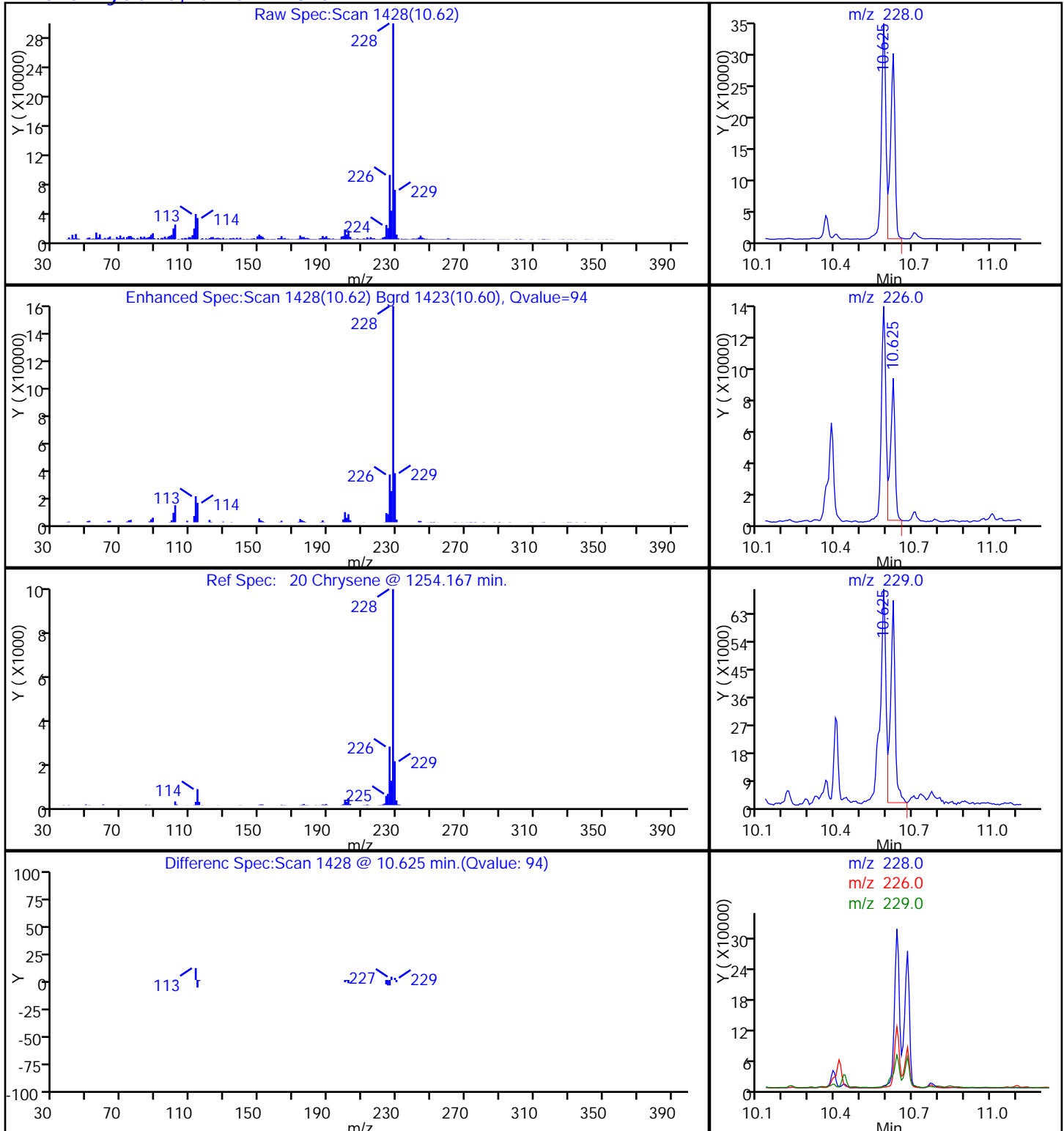
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

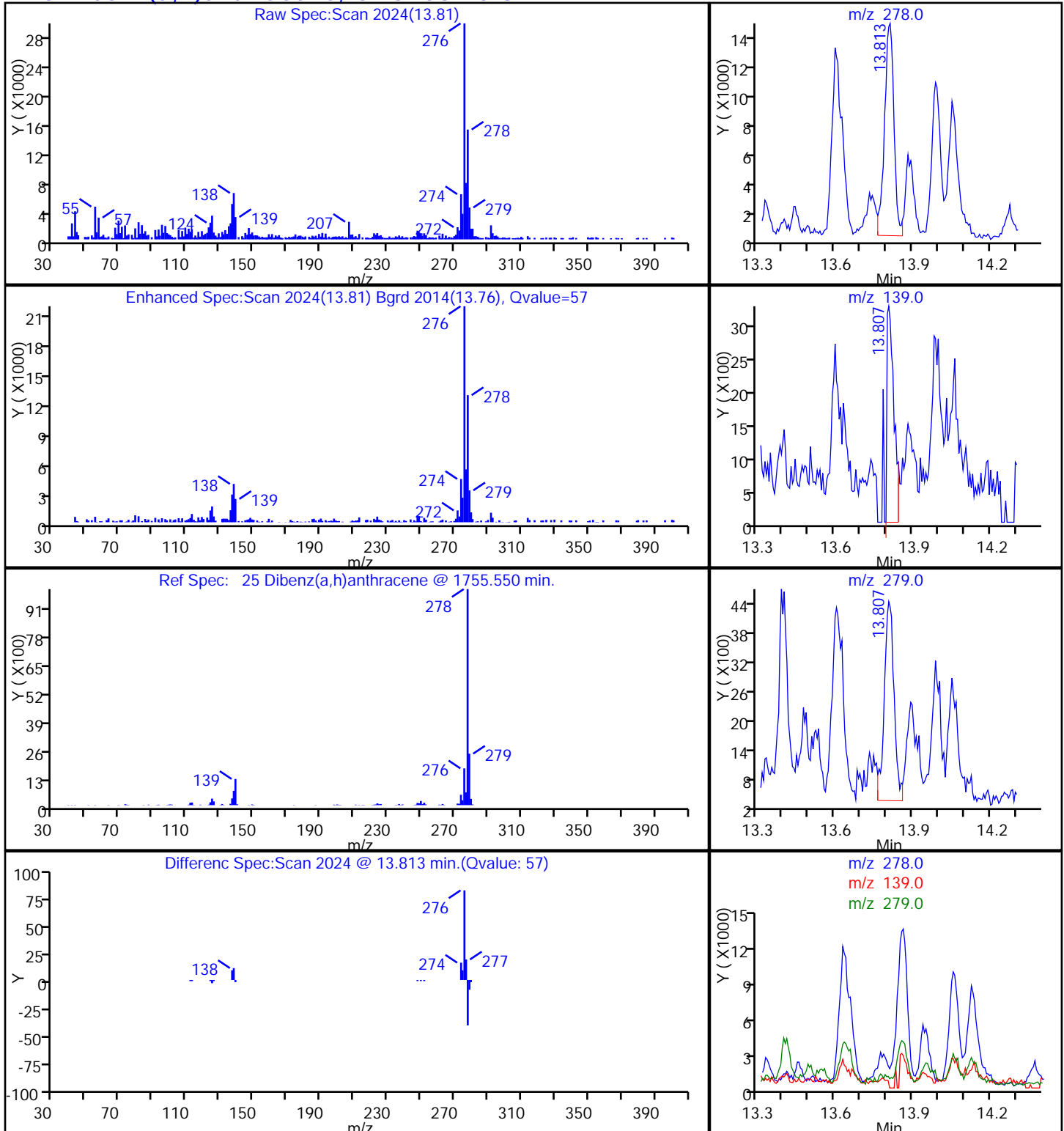
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

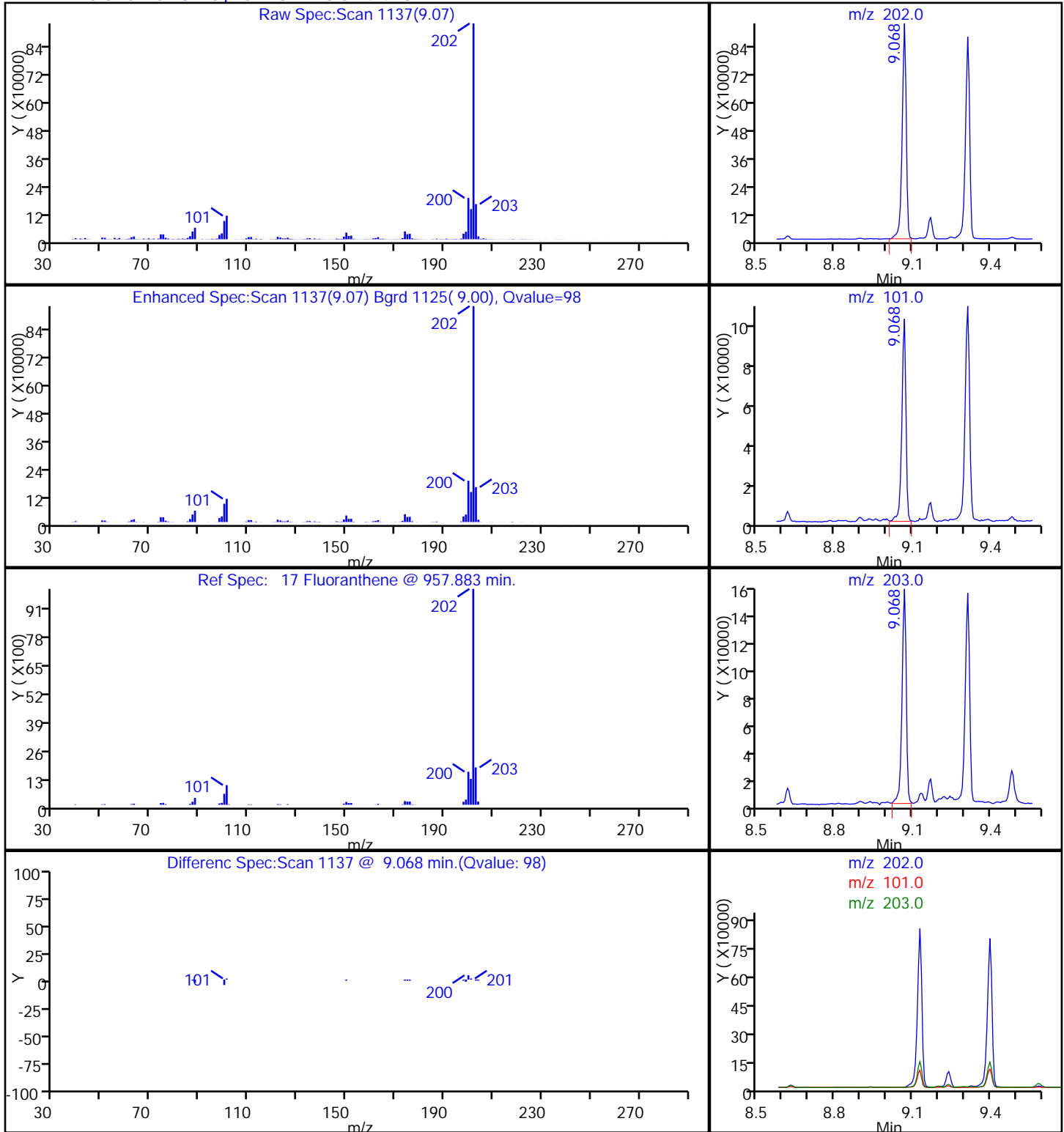
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

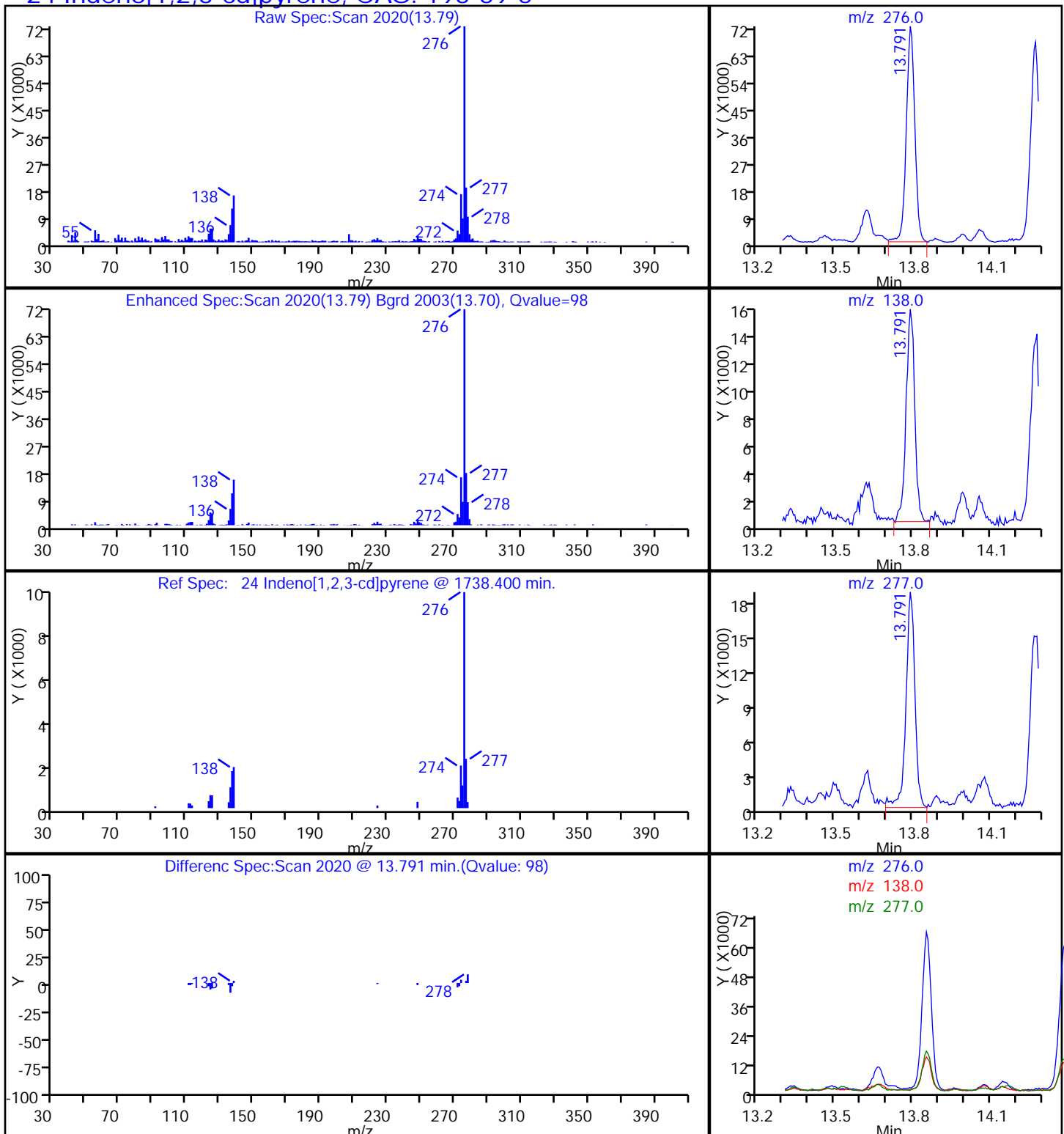
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

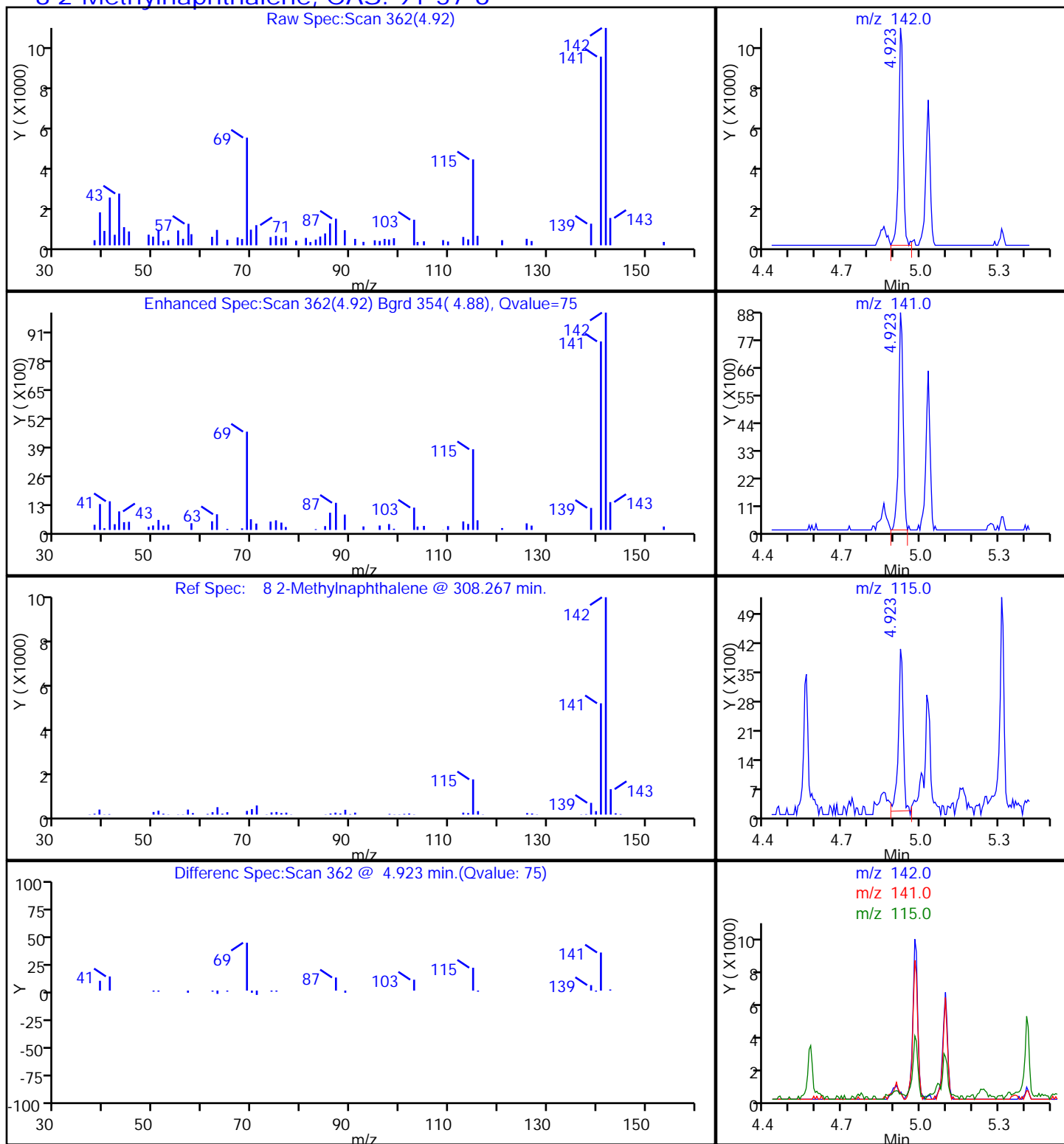
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

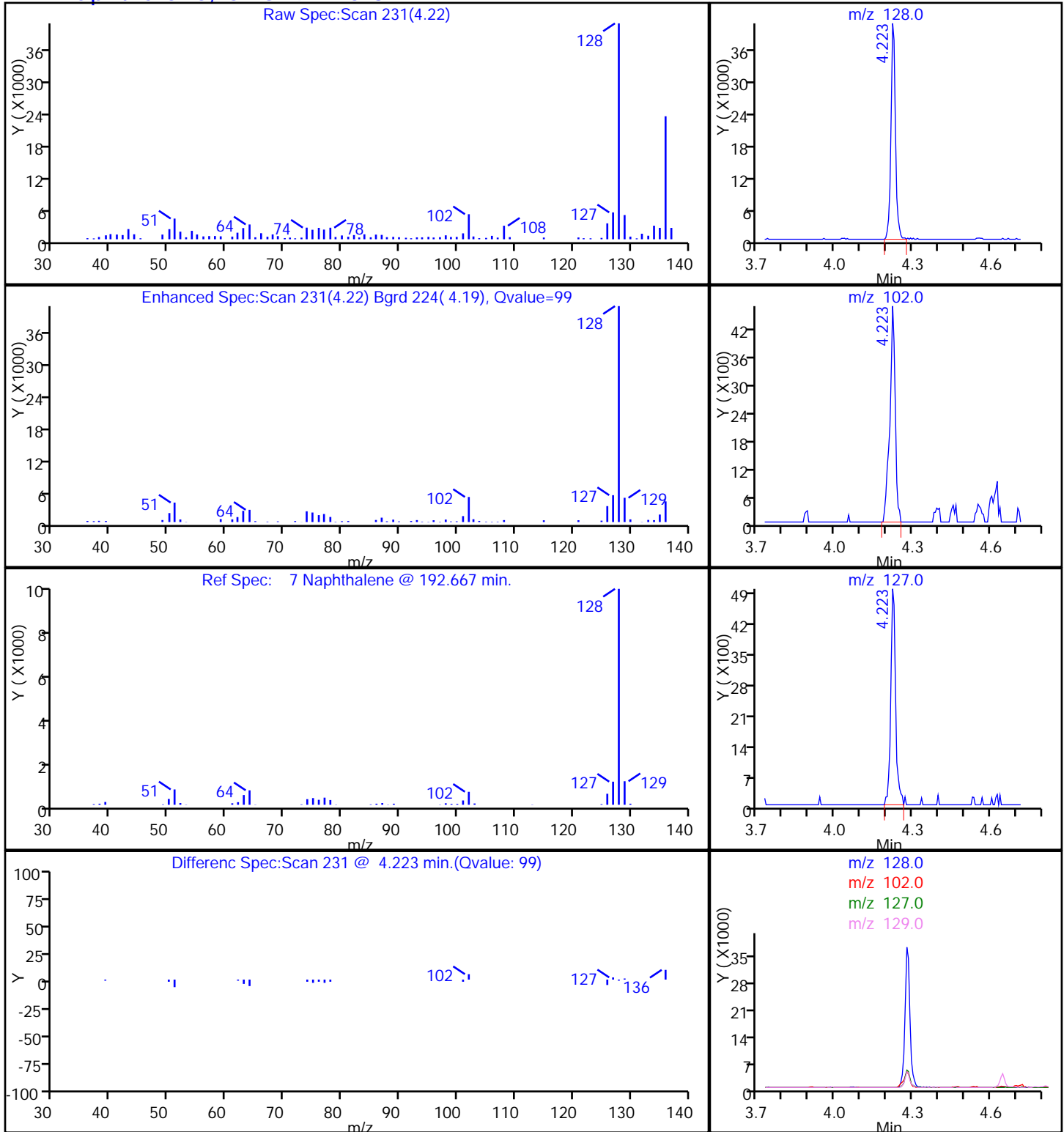
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

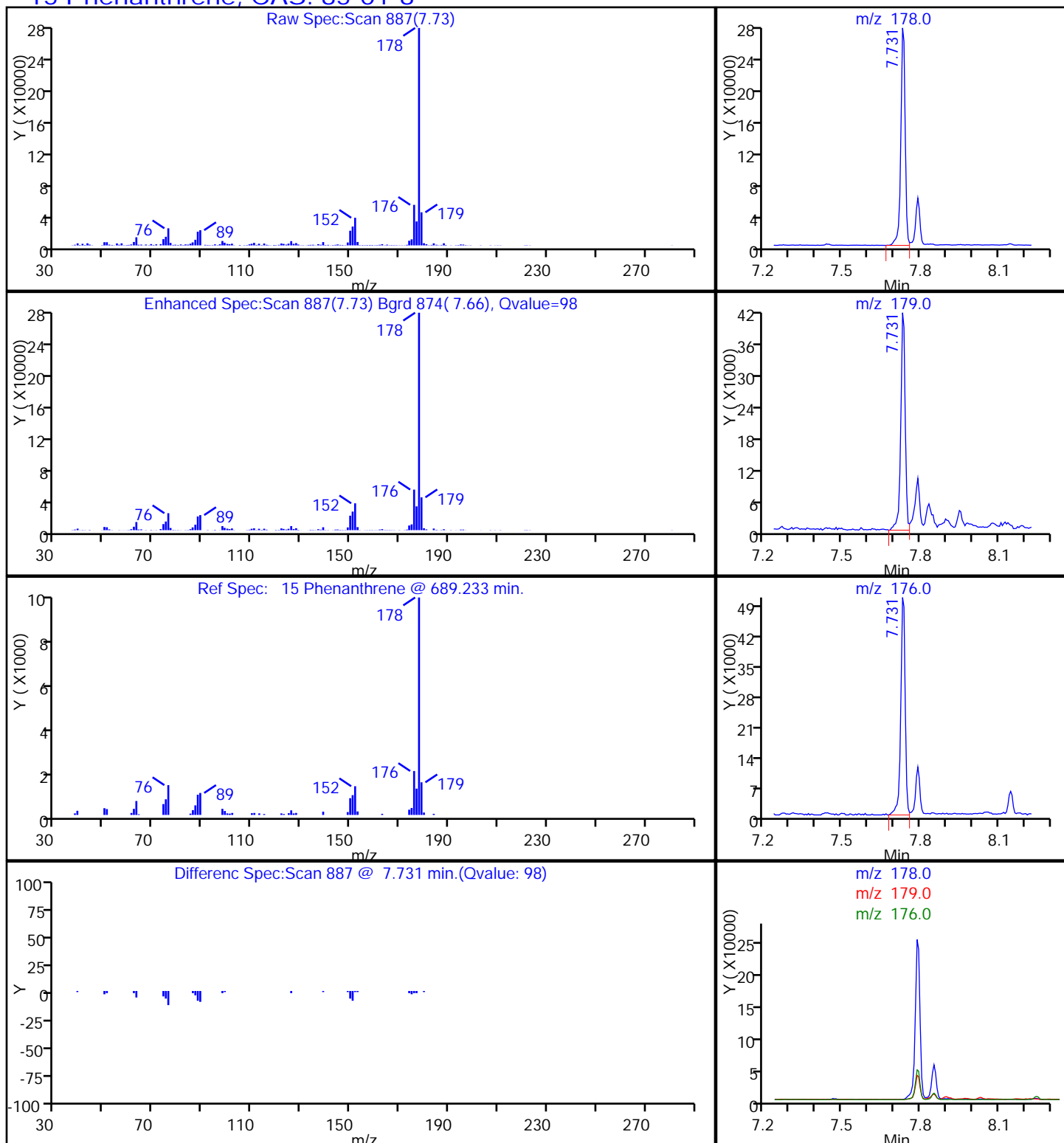
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D

Injection Date: 29-Aug-2014 16:30:30

Instrument ID: CMSY

Lims ID: 680-104534-A-6-A

Lab Sample ID: 680-104534-6

Client ID: HP0085A-CS12"

Operator ID: RM

ALS Bottle#: 17

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

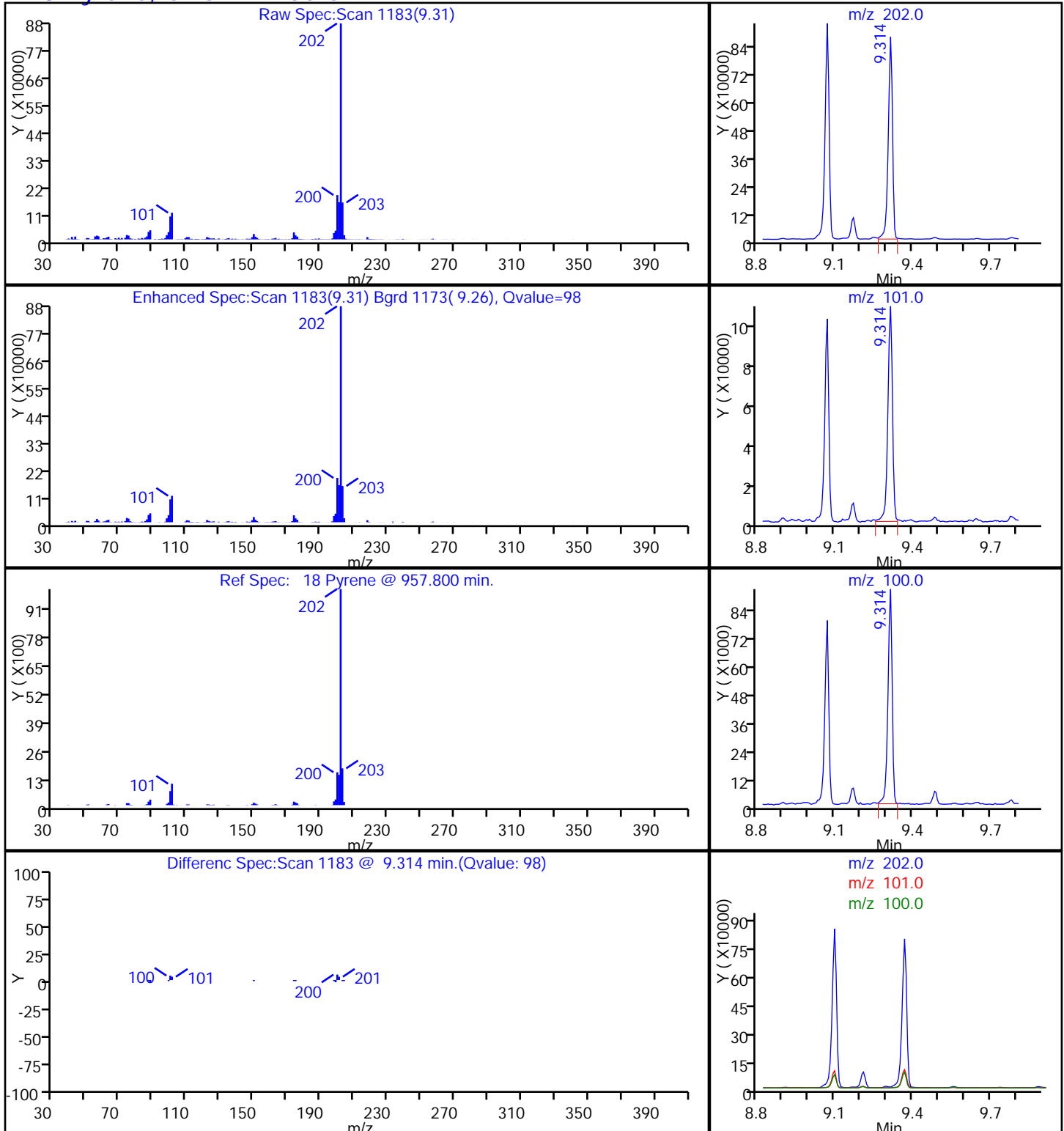
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



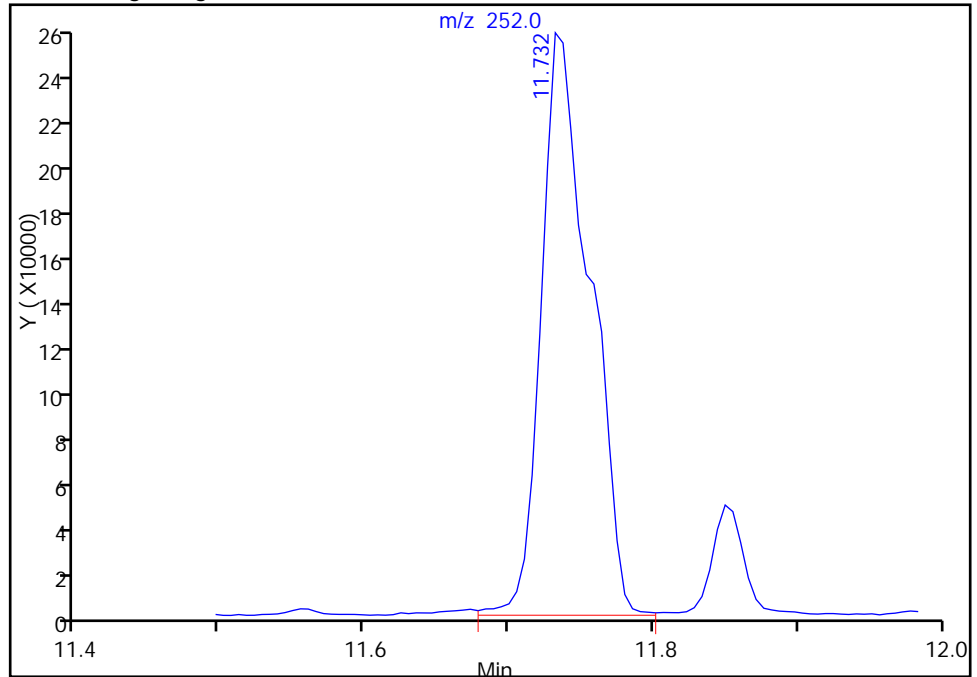
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D		
Injection Date:	29-Aug-2014 16:30:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-6-A	Lab Sample ID:	680-104534-6
Client ID:	HP0085A-CS12"		
Operator ID:	RM	ALS Bottle#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	18

21 Benzo[b]fluoranthene, CAS: 205-99-2

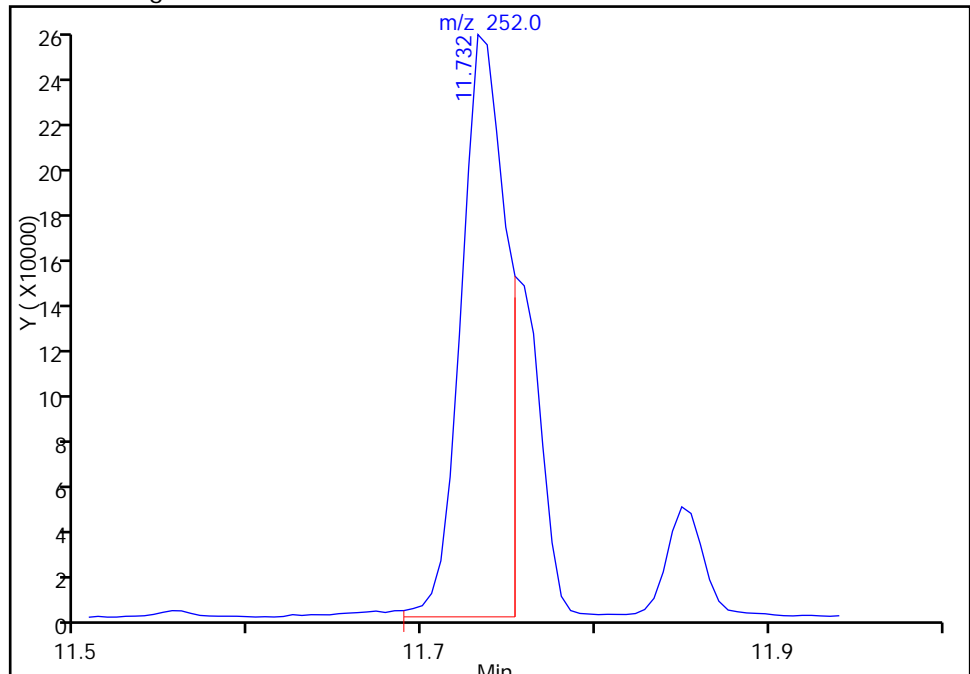
RT: 11.73
Response: 596209
Amount: 6.958187

Processing Integration Results



RT: 11.73
Response: 468765
Amount: 5.470824

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:50:21
Audit Action: Manually Integrated
Audit Reason: Split Peak

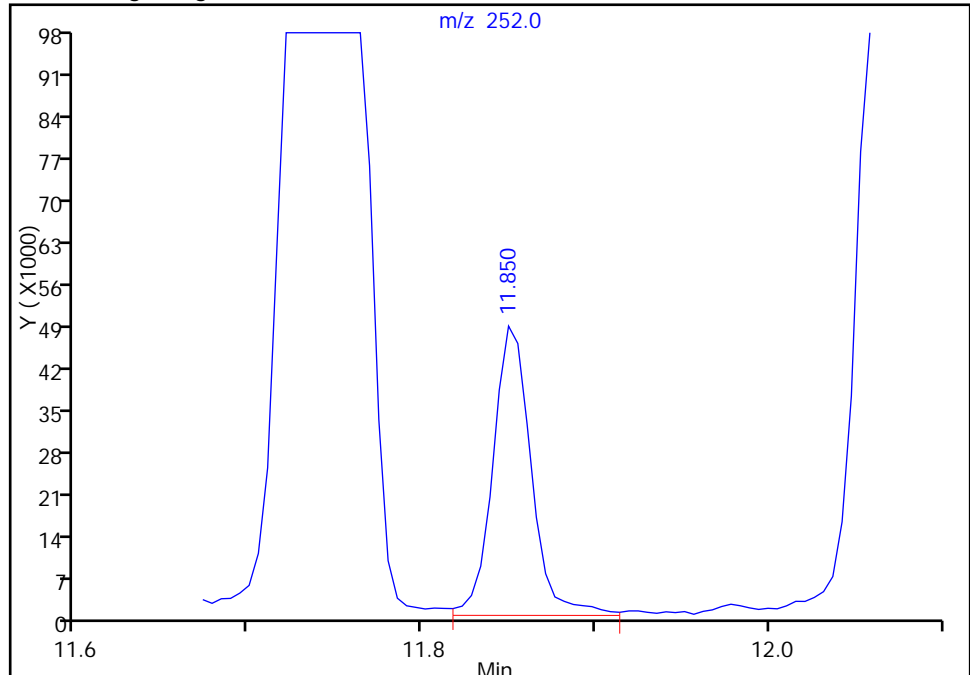
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2918.D		
Injection Date:	29-Aug-2014 16:30:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-6-A	Lab Sample ID:	680-104534-6
Client ID:	HP0085A-CS12"		
Operator ID:	RM	ALS Bottle#:	17
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	18

22 Benzo[k]fluoranthene, CAS: 207-08-9

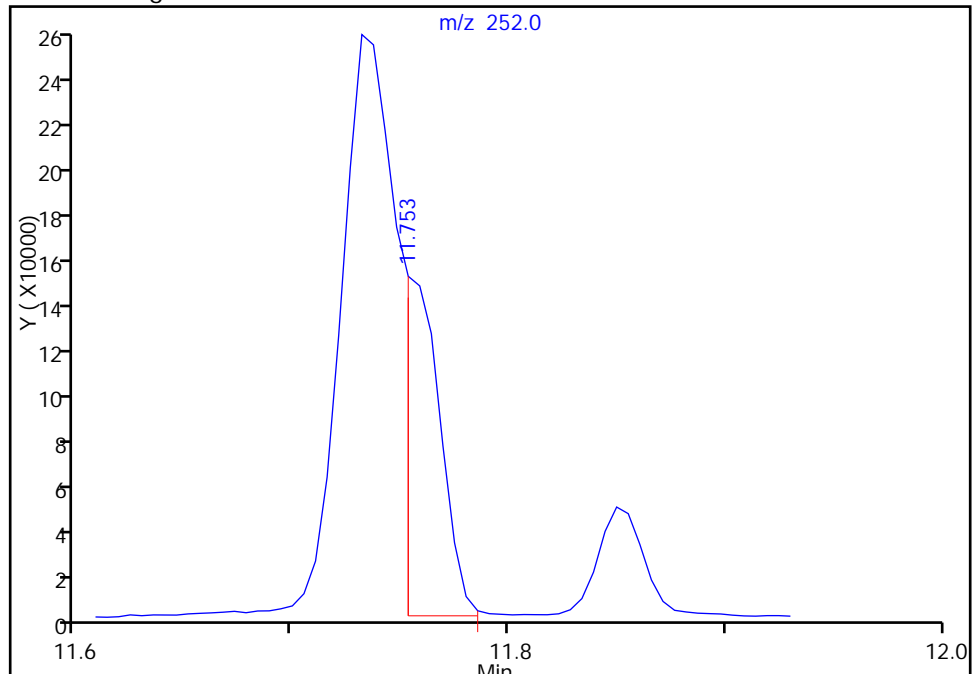
RT: 11.85
Response: 74475
Amount: 0.918205

Processing Integration Results



RT: 11.75
Response: 170579
Amount: 2.103074

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:50:21
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085A-CSD12"</u>	Lab Sample ID: <u>680-104534-7</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2515.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 09:25</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 17:04</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>12.7</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	210		77	38
50-32-8	Benzo[a]pyrene	250		77	14
205-99-2	Benzo[b]fluoranthene	320		77	38
191-24-2	Benzo[g,h,i]perylene	180		77	38
207-08-9	Benzo[k]fluoranthene	160		77	23
218-01-9	Chrysene	180		77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	340		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	110		77	38
90-12-0	1-Methylnaphthalene	77	U	77	36
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	100		77	27
129-00-0	Pyrene	410		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D
 Lims ID: 680-104534-A-7-A Lab Sample ID: 680-104534-7
 Client ID: HP0085A-CSD12"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 17:04:30 ALS Bottle#: 15 Worklist Smp#: 15
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-7-A DL=10
 Misc. Info.: 680-0012210-015
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 16:32:13 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: webbk

Date: 26-Aug-2014 09:44:33

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.255	4.249	0.006	99	325367	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	180949	2.00	
* 3 Phenanthrene-d10	188	7.753	7.747	0.006	98	267302	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	100	160316	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	87810	2.00	
7 Naphthalene	128	4.271	4.271	0.000	74	9204	0.0612	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	66	3766	0.0387	7
9 1-Methylnaphthalene	142	5.073	5.073	0.000	46	3891	0.0416	7
11 Acenaphthylene	152	5.934	5.934	0.000	85	9820	0.0669	
15 Phenanthrene	178	7.779	7.774	0.005	75	34524	0.2685	
16 Anthracene	178	7.833	7.833	0.000	88	8510	0.0671	
17 Fluoranthene	202	9.106	9.106	0.000	98	112543	0.8990	
18 Pyrene	202	9.352	9.352	0.000	97	111484	1.07	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	77	44234	0.5510	
20 Chrysene	228	10.657	10.662	-0.005	92	36230	0.4654	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	95	39855	0.8288	M
22 Benzo[k]fluoranthene	252	11.791	11.807	-0.016	69	19318	0.4098	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	96	25211	0.6451	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	92	16155	0.2890	
26 Benzo[g,h,i]perylene	276	14.347	14.347	0.000	81	16123	0.4838	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Worklist Smp#: 15

Client ID: HP0085A-CSD12"

Injection Vol: 2.0 ul

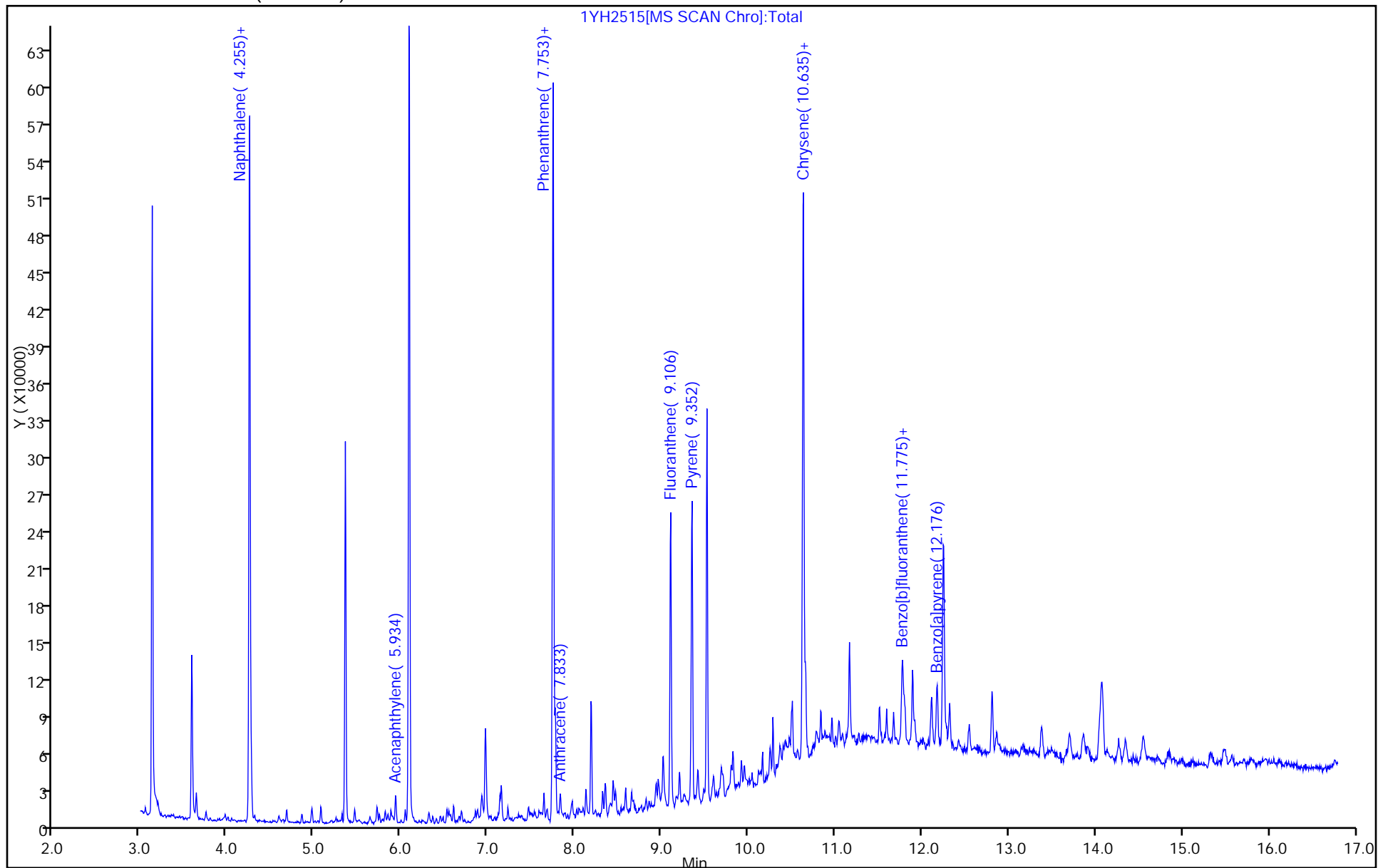
Dil. Factor: 10.0000

ALS Bottle#: 15

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

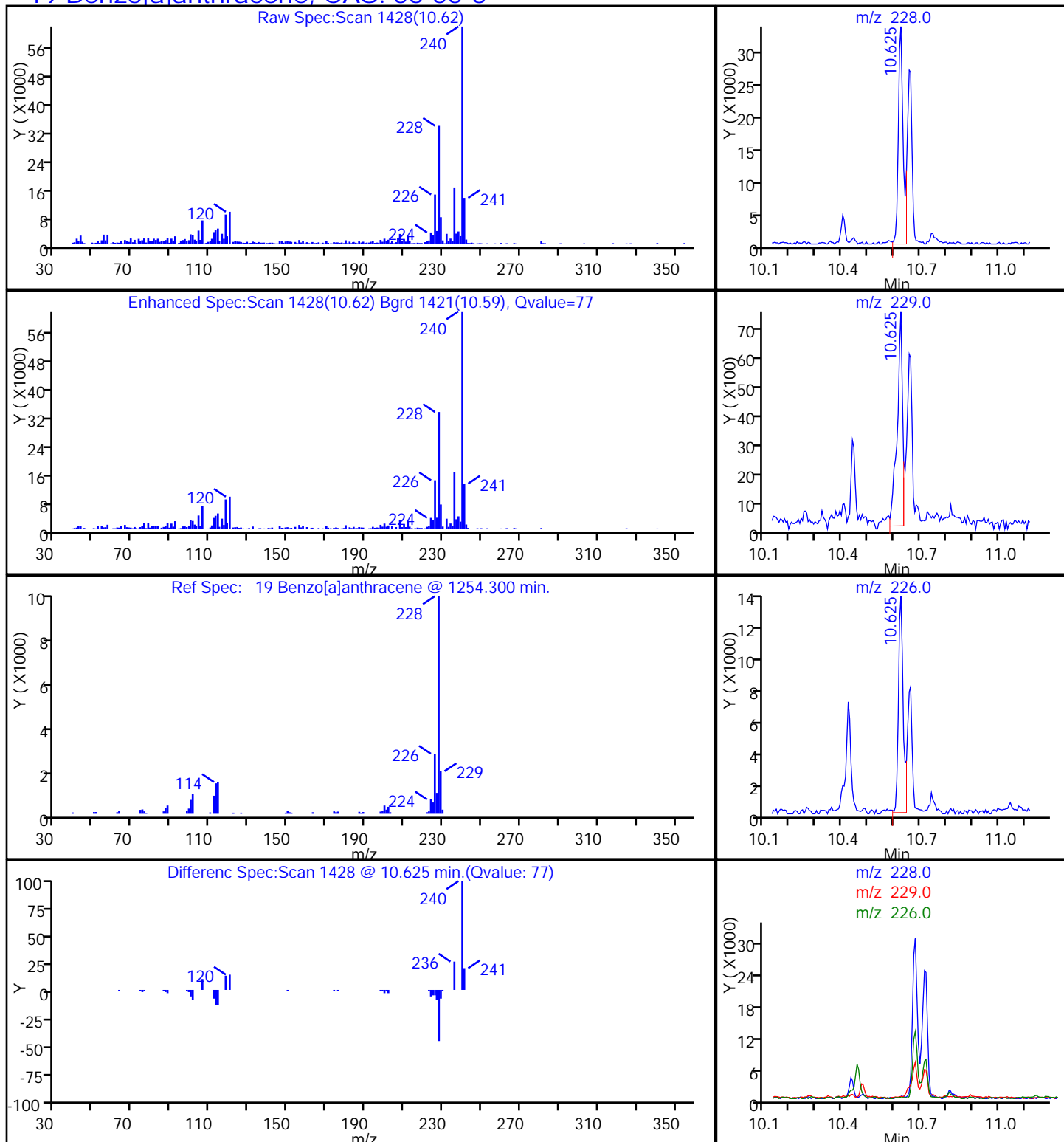
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

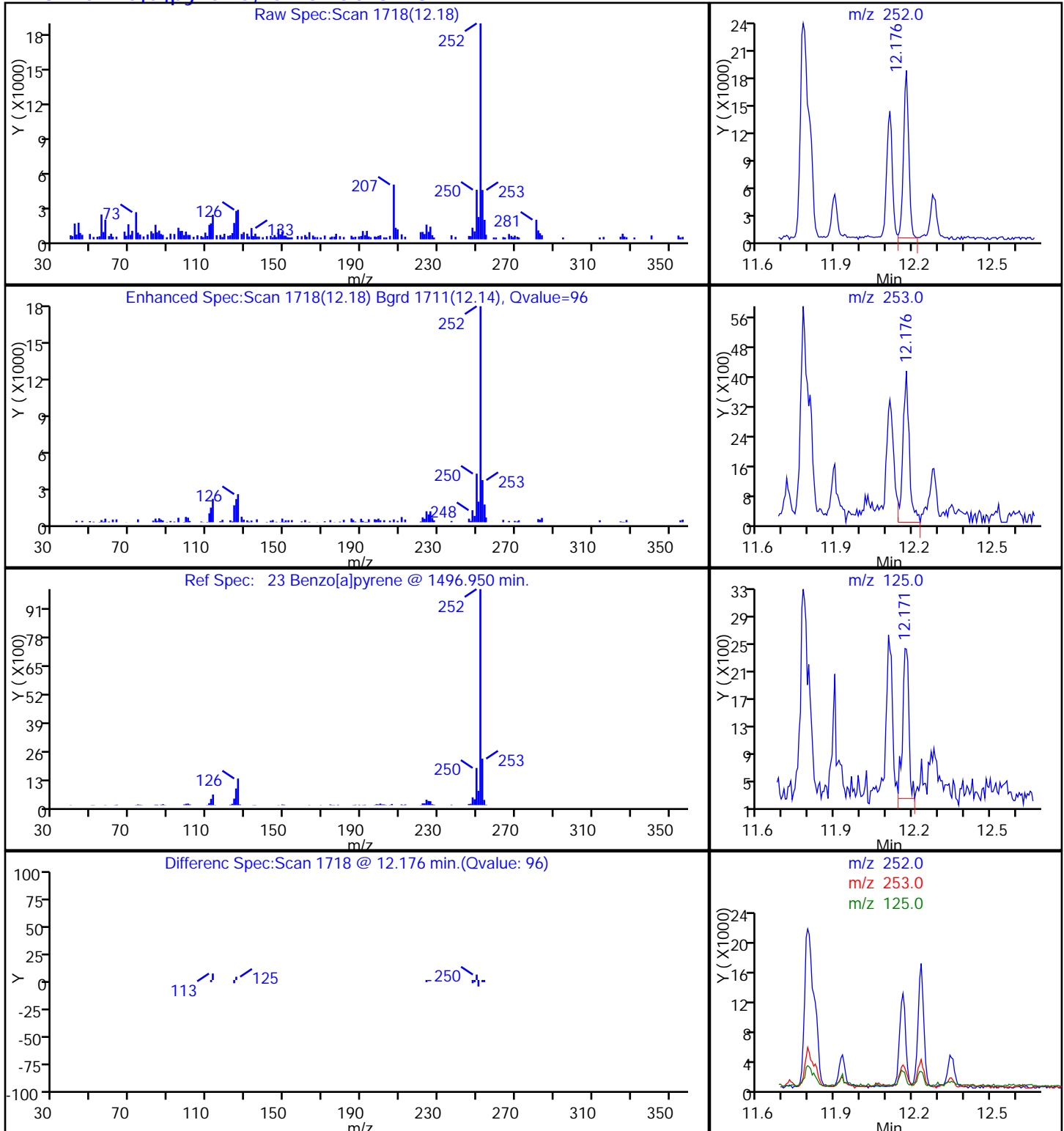
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

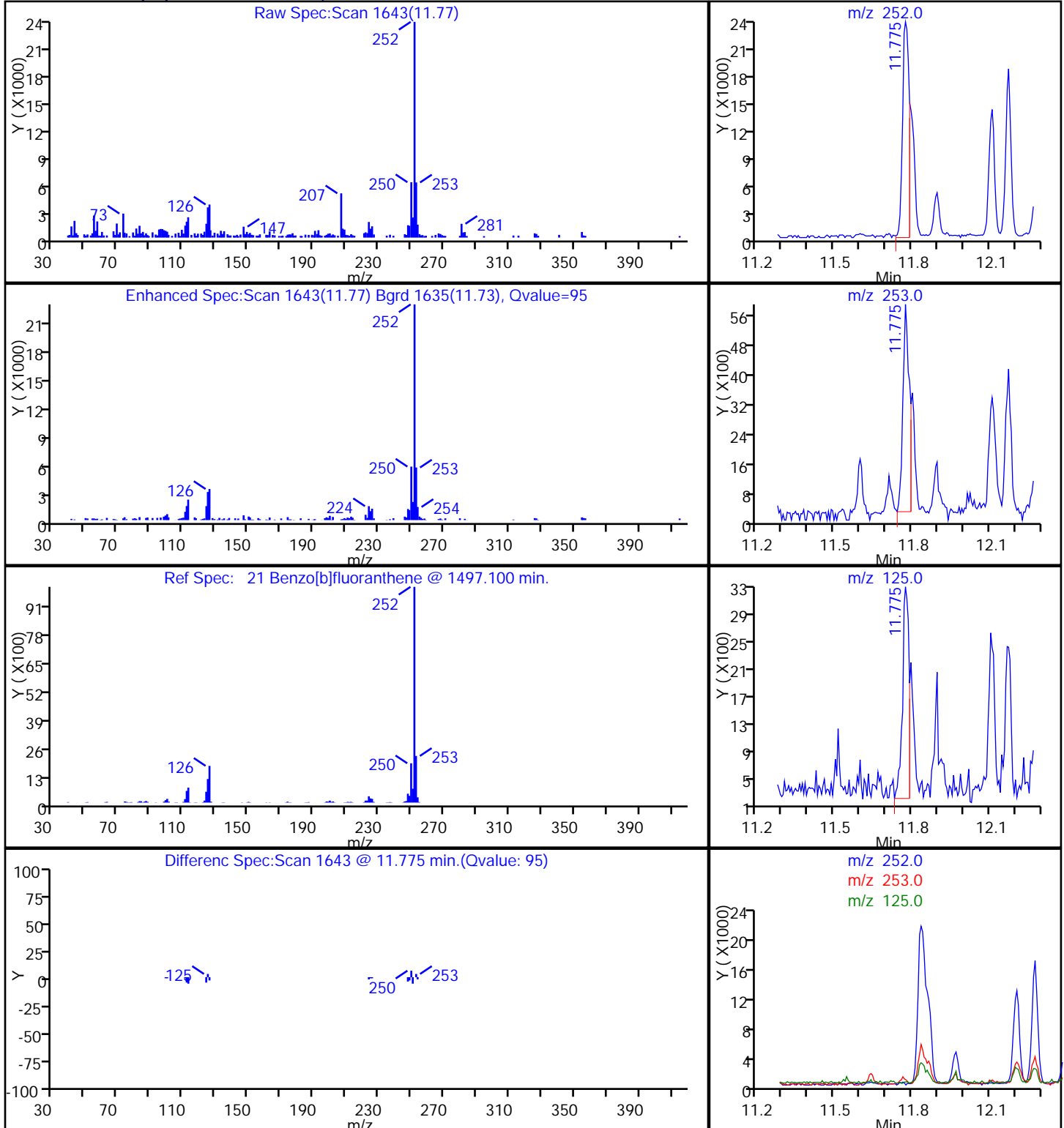
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

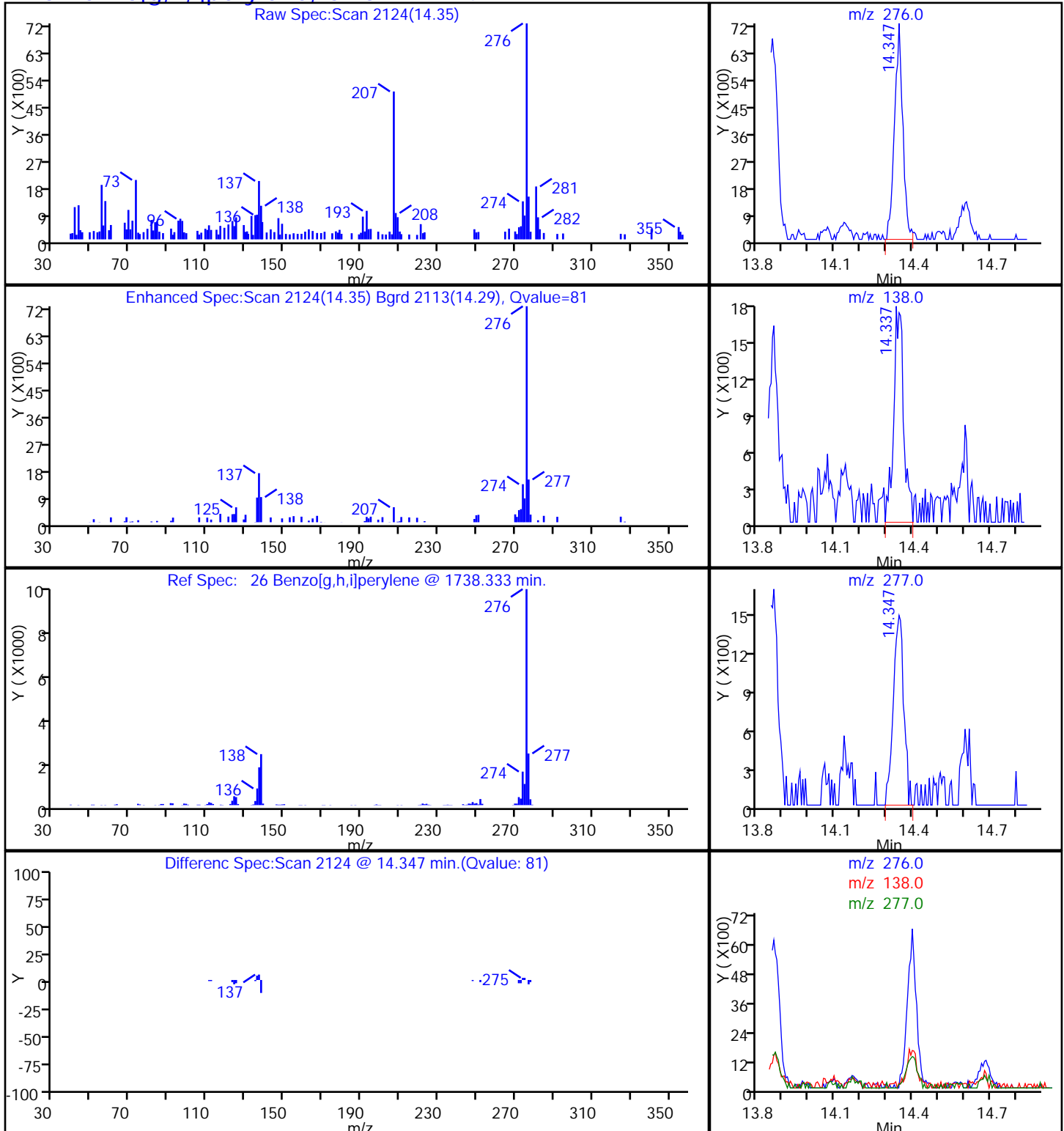
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

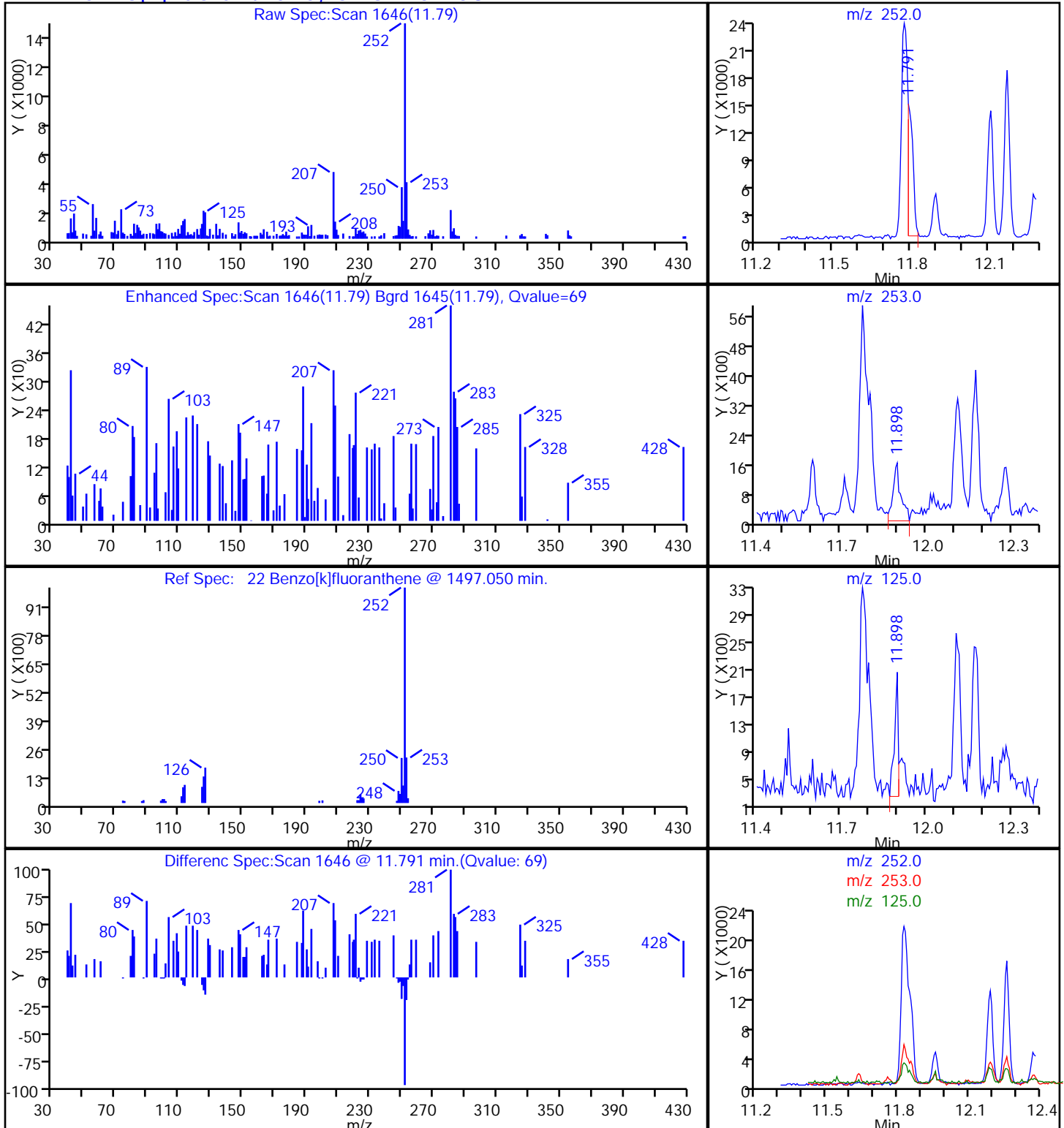
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

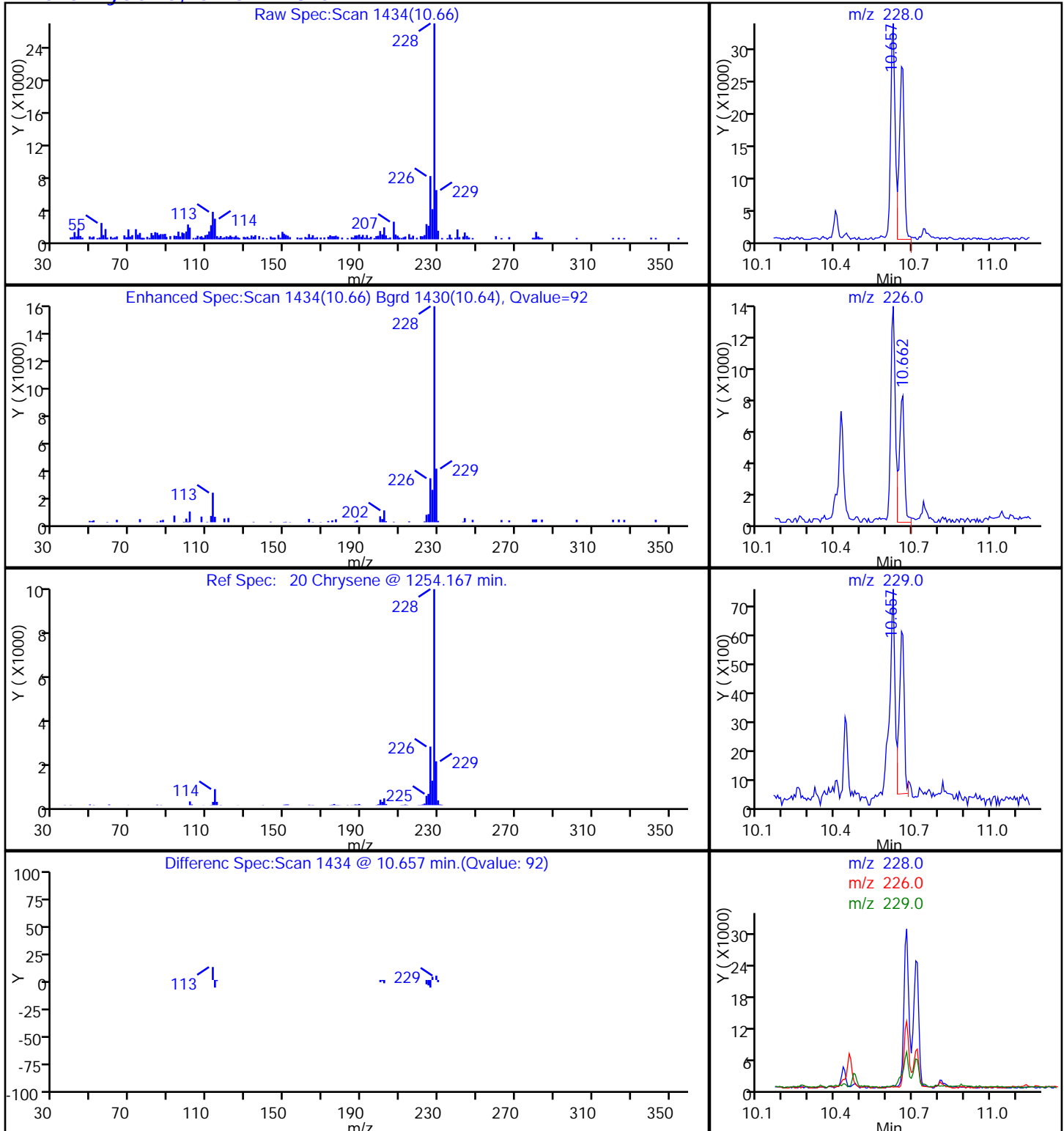
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

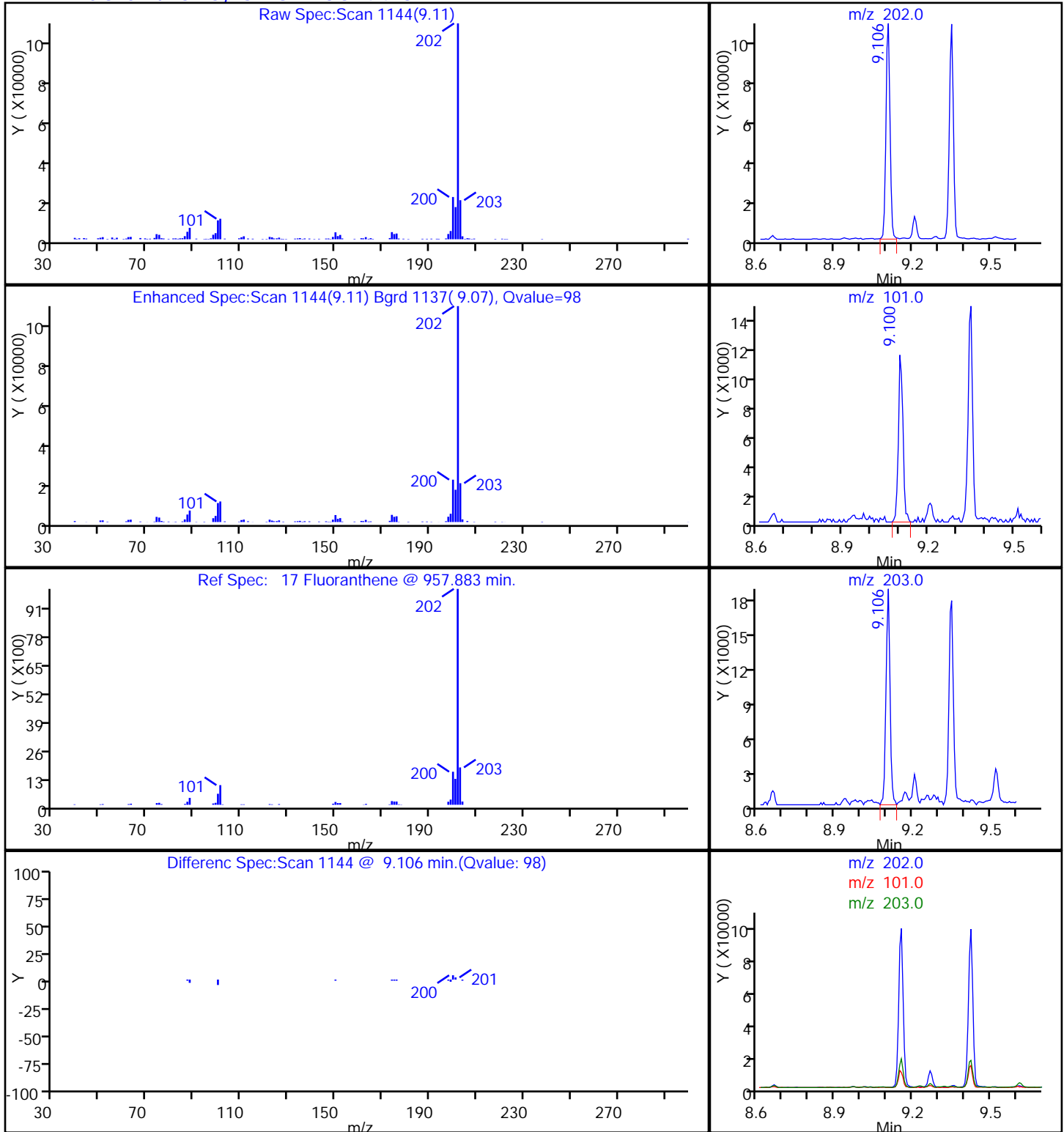
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

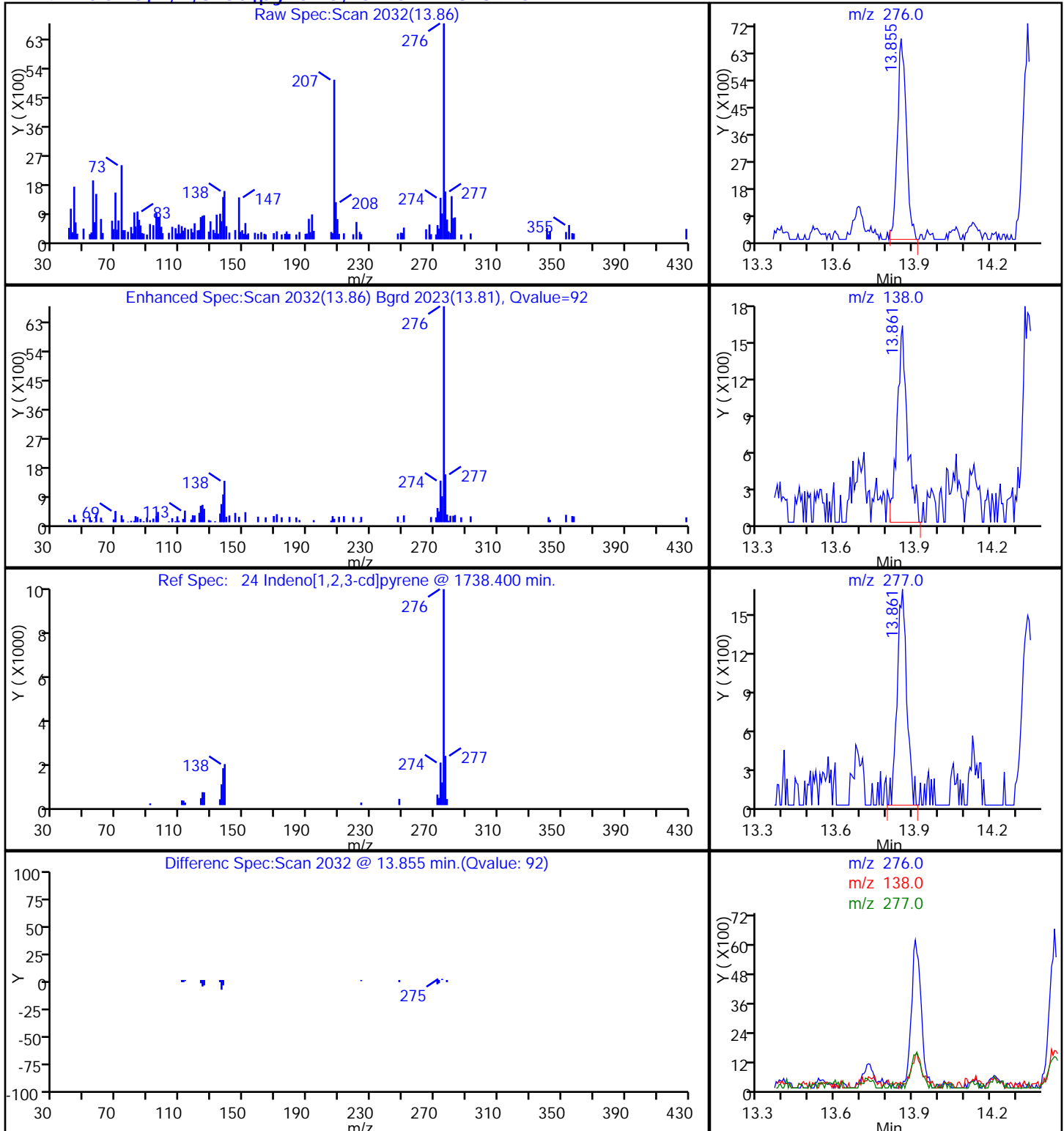
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

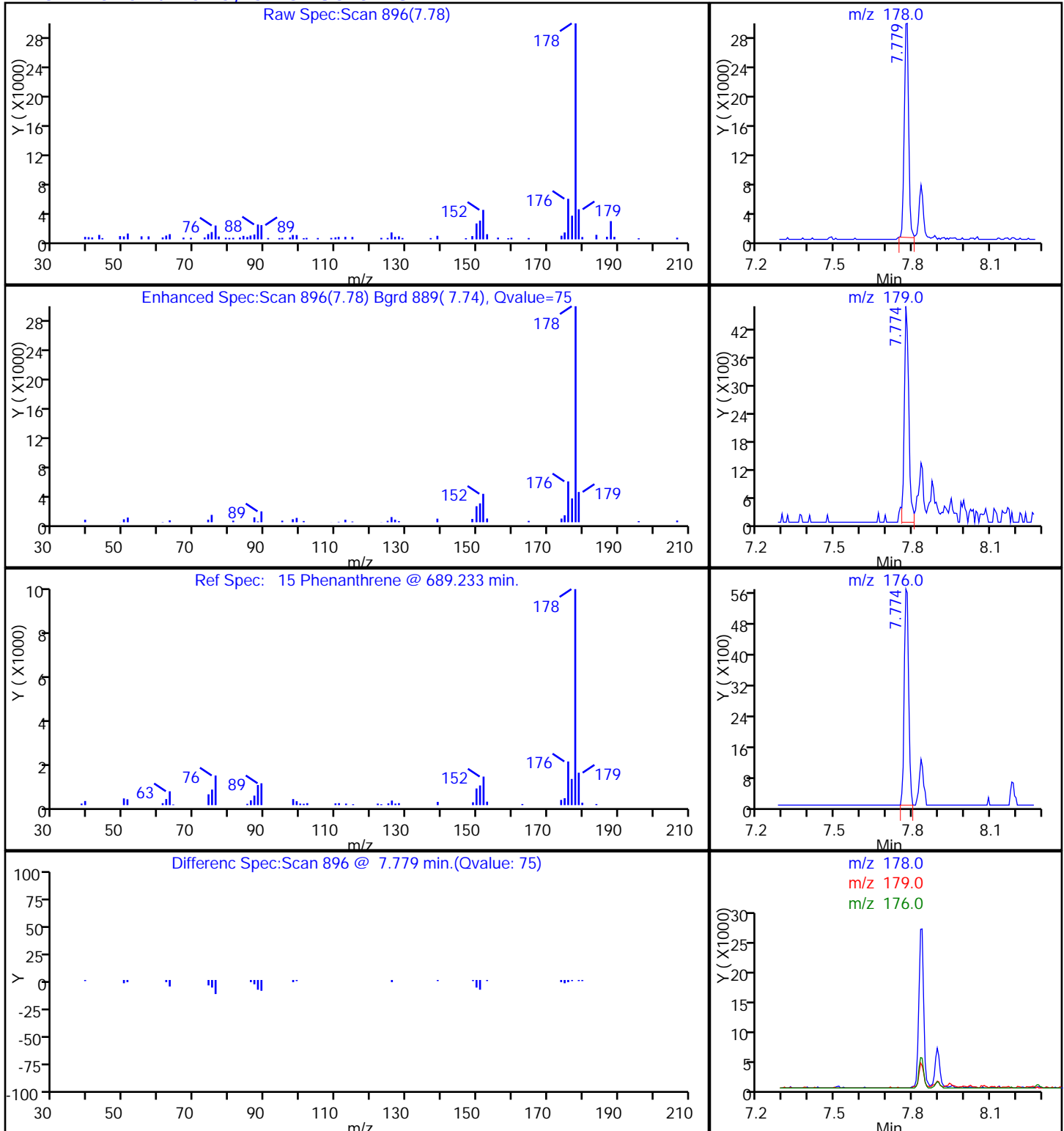
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D

Injection Date: 25-Aug-2014 17:04:30

Instrument ID: CMSY

Lims ID: 680-104534-A-7-A

Lab Sample ID: 680-104534-7

Client ID: HP0085A-CSD12"

Operator ID: RM

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

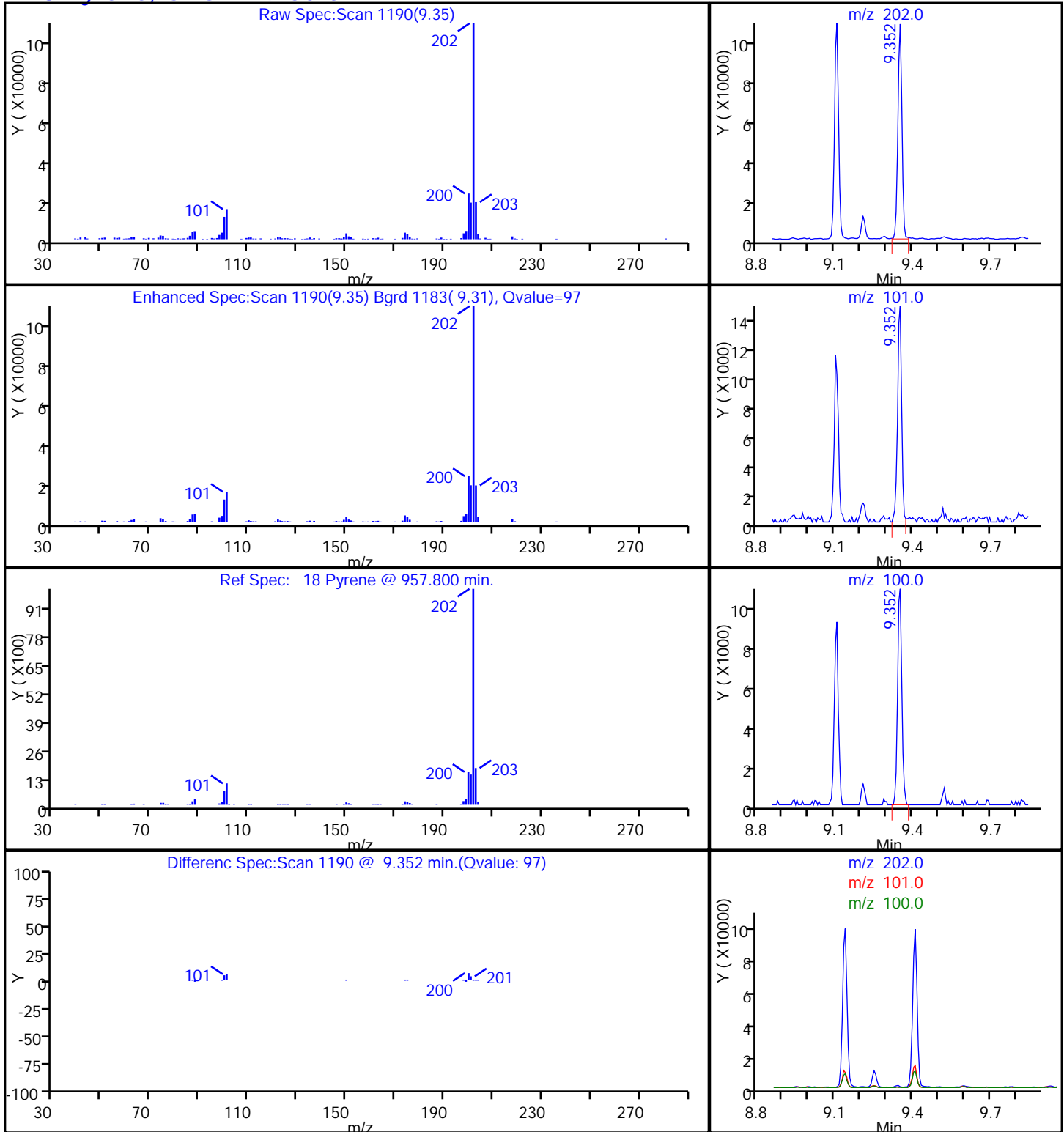
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



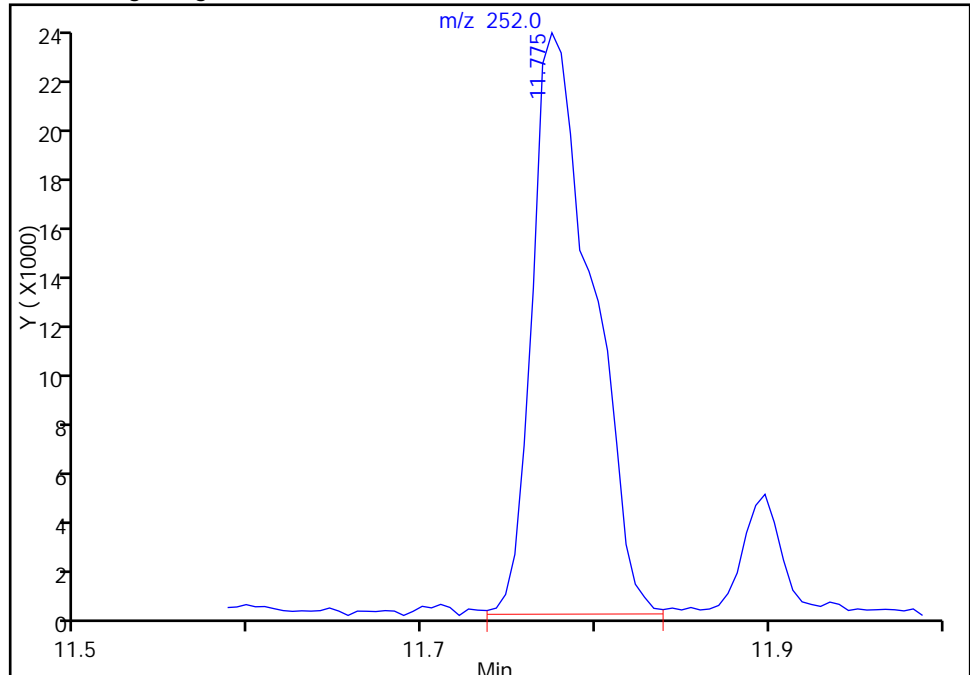
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D		
Injection Date:	25-Aug-2014 17:04:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-7-A	Lab Sample ID:	680-104534-7
Client ID:	HP0085A-CSD12"		
Operator ID:	RM	ALS Bottle#:	15
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	15

21 Benzo[b]fluoranthene, CAS: 205-99-2

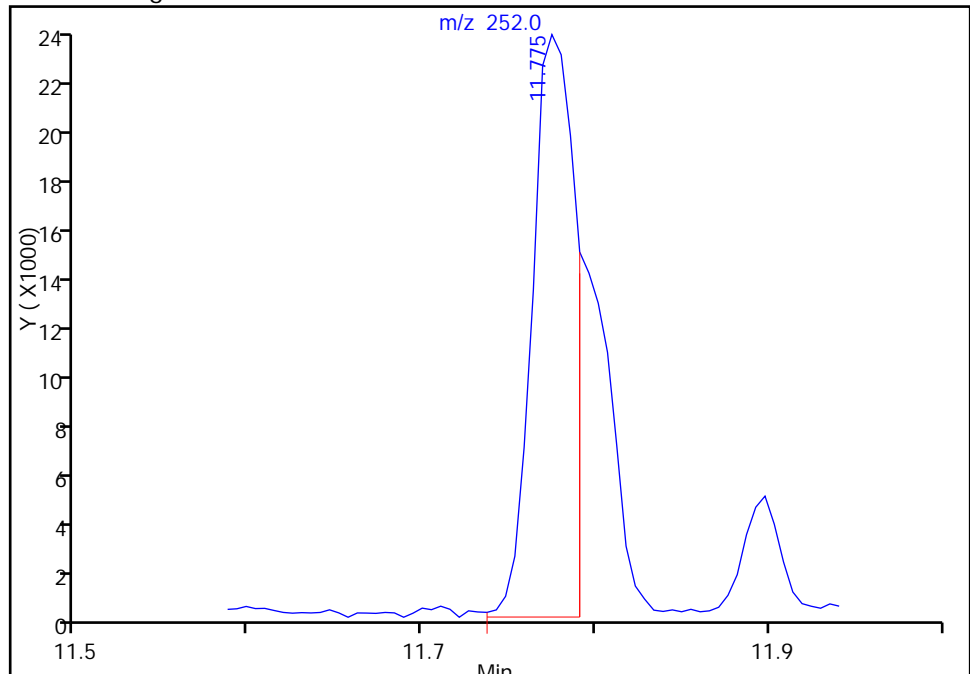
RT: 11.77
Response: 55165
Amount: 1.147171

Processing Integration Results



RT: 11.77
Response: 39855
Amount: 0.828795

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 09:44:33
Audit Action: Manually Integrated
Audit Reason: Split Peak

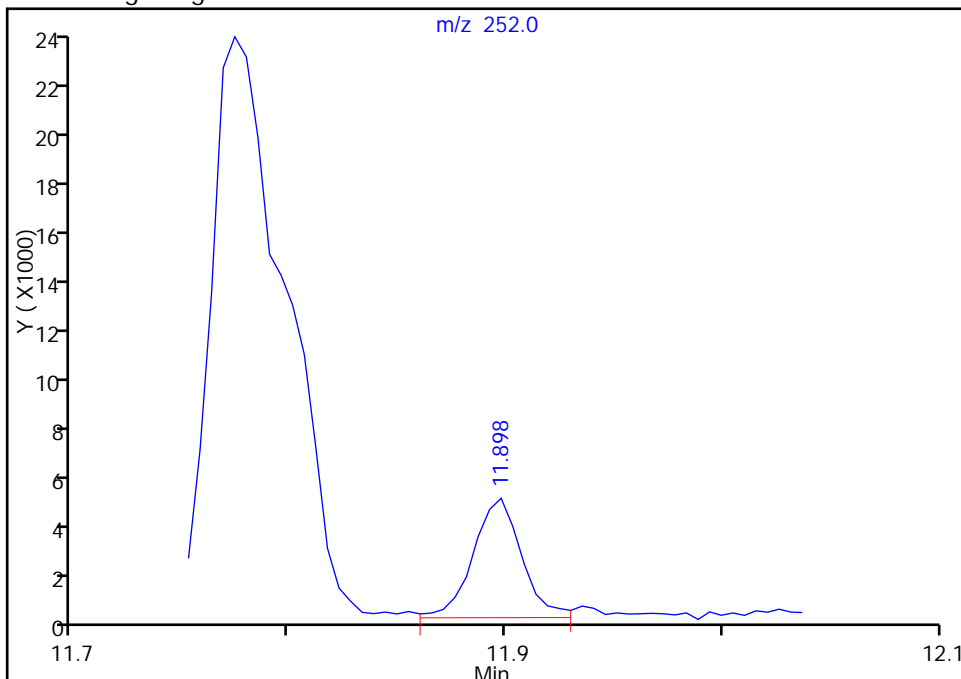
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2515.D		
Injection Date:	25-Aug-2014 17:04:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-7-A	Lab Sample ID:	680-104534-7
Client ID:	HP0085A-CSD12"		
Operator ID:	RM	ALS Bottle#:	15
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	15

22 Benzo[k]fluoranthene, CAS: 207-08-9

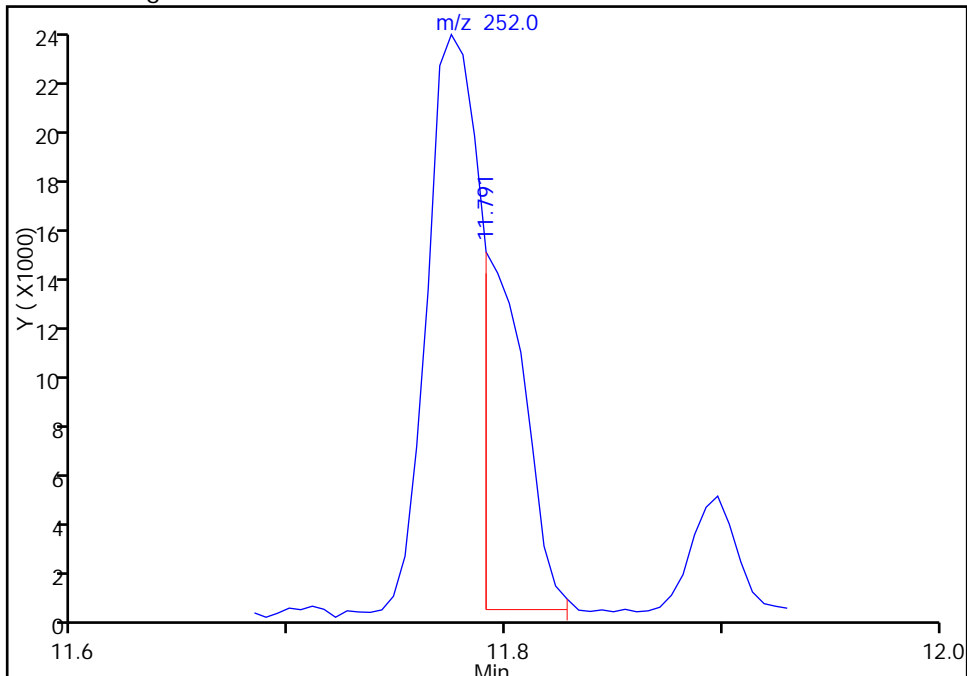
RT: 11.90
Response: 7416
Amount: 0.157307

Processing Integration Results



RT: 11.79
Response: 19318
Amount: 0.409770

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 09:44:33
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085A-CS18"</u>	Lab Sample ID: <u>680-104534-8</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2624.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 09:30</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/26/2014 23:03</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>12.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.6	U	7.6	3.8
208-96-8	Acenaphthylene	7.6	U	7.6	3.8
120-12-7	Anthracene	7.6	U	7.6	3.8
56-55-3	Benzo[a]anthracene	8.4		7.6	3.8
50-32-8	Benzo[a]pyrene	11		7.6	1.4
205-99-2	Benzo[b]fluoranthene	15		7.6	3.8
191-24-2	Benzo[g,h,i]perylene	17		7.6	3.8
207-08-9	Benzo[k]fluoranthene	4.2	J	7.6	2.3
218-01-9	Chrysene	9.3		7.6	3.8
53-70-3	Dibenz(a,h)anthracene	7.9		7.6	3.8
206-44-0	Fluoranthene	13		7.6	3.8
86-73-7	Fluorene	7.6	U	7.6	3.8
193-39-5	Indeno[1,2,3-cd]pyrene	15		7.6	3.8
90-12-0	1-Methylnaphthalene	7.6	U	7.6	3.5
91-57-6	2-Methylnaphthalene	7.6	U	7.6	3.8
91-20-3	Naphthalene	7.6	U	7.6	3.8
85-01-8	Phenanthrene	5.1	J	7.6	2.7
129-00-0	Pyrene	14		7.6	3.8

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	97		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D
 Lims ID: 680-104534-A-8-A Lab Sample ID: 680-104534-8
 Client ID: HP0085A-CS18"
 Sample Type: Client
 Inject. Date: 26-Aug-2014 23:03:30 ALS Bottle#: 24 Worklist Smp#: 24
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-8-A
 Misc. Info.: 680-0012269-024
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 17:01:07 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: moorer

Date: 28-Aug-2014 15:19:47

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.018	4.024	-0.006	98	548409	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	91	270020	2.00	
* 3 Phenanthrene-d10	188	7.403	7.408	-0.006	98	353596	2.00	
* 4 Chrysene-d12	240	10.223	10.229	-0.006	99	247598	2.00	
* 5 Perylene-d12	264	11.656	11.668	-0.012	97	206450	2.00	
\$ 6 o-Terphenyl	230	7.849	7.849	0.000	89	195941	1.95	
7 Naphthalene	128	4.036	4.042	-0.006	98	19484	0.0782	
15 Phenanthrene	178	7.432	7.432	0.000	97	22454	0.1338	
16 Anthracene	178	7.485	7.485	0.000	69	5415	0.0342	7
17 Fluoranthene	202	8.730	8.730	0.000	98	55528	0.3296	
18 Pyrene	202	8.965	8.971	-0.006	98	57421	0.3639	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	95	24624	0.2227	
20 Chrysene	228	10.252	10.252	0.000	98	26678	0.2459	
21 Benzo[b]fluoranthene	252	11.263	11.269	-0.006	97	39596	0.3868	
22 Benzo[k]fluoranthene	252	11.286	11.298	-0.012	98	11915	0.1116	M
23 Benzo[a]pyrene	252	11.598	11.610	-0.012	96	25139	0.2781	
24 Indeno[1,2,3-cd]pyrene	276	12.990	13.002	-0.012	98	39273	0.3922	
25 Dibenz(a,h)anthracene	278	13.014	13.037	-0.023	93	18874	0.2080	
26 Benzo[g,h,i]perylene	276	13.390	13.402	-0.012	95	39820	0.4352	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Worklist Smp#: 24

Client ID: HP0085A-CS18"

Injection Vol: 2.0 ul

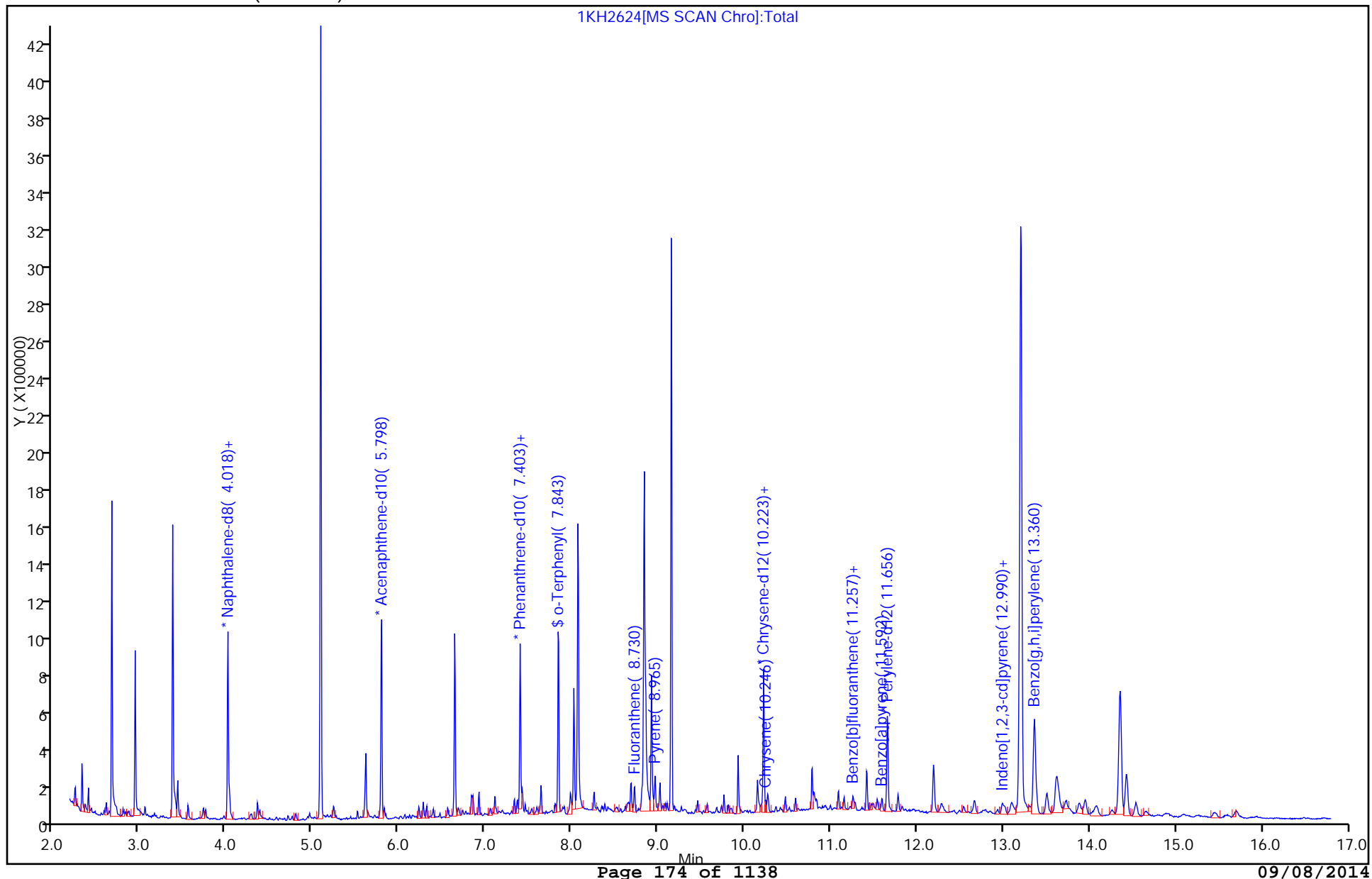
Dil. Factor: 1.0000

ALS Bottle#: 24

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

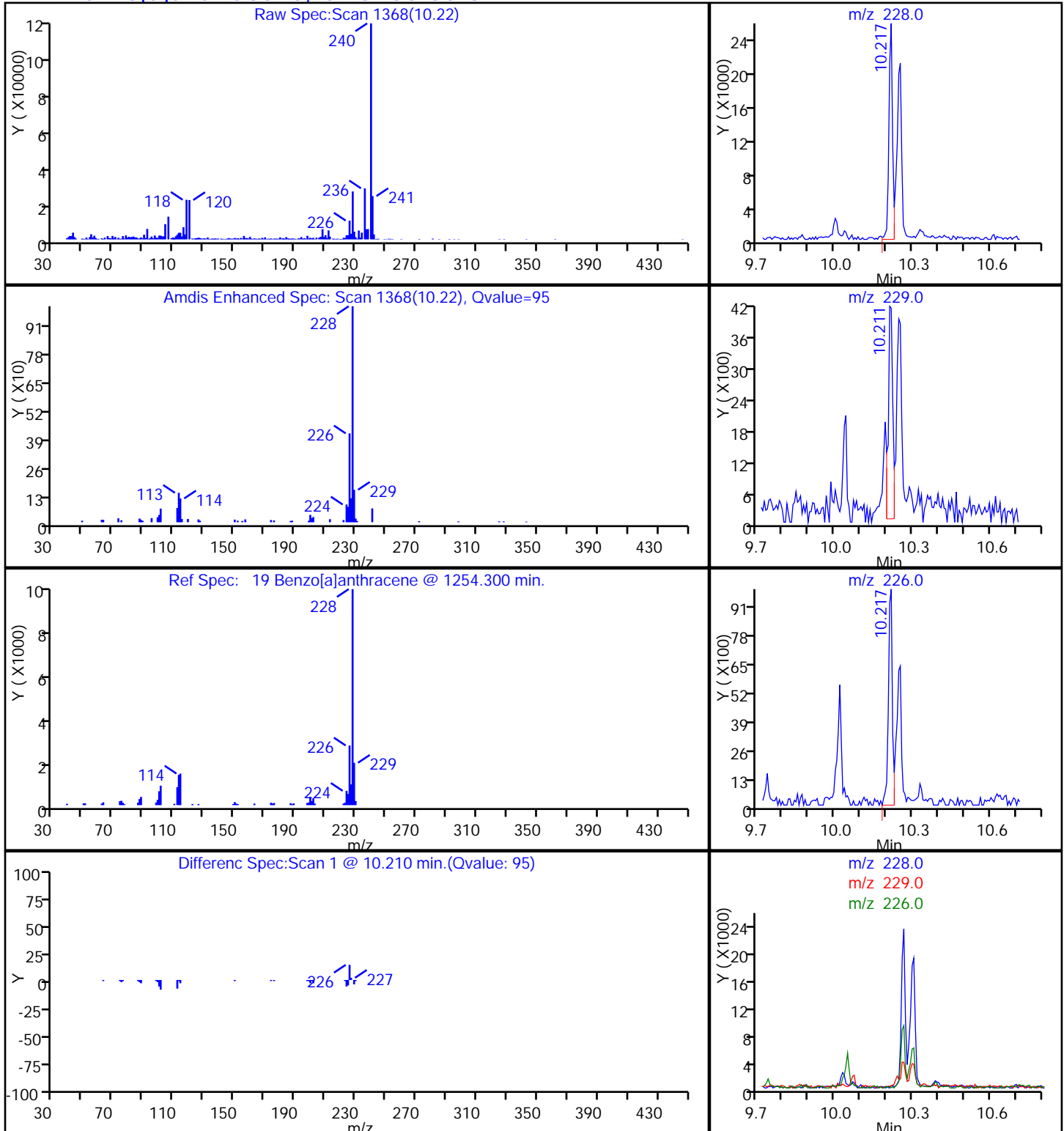
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

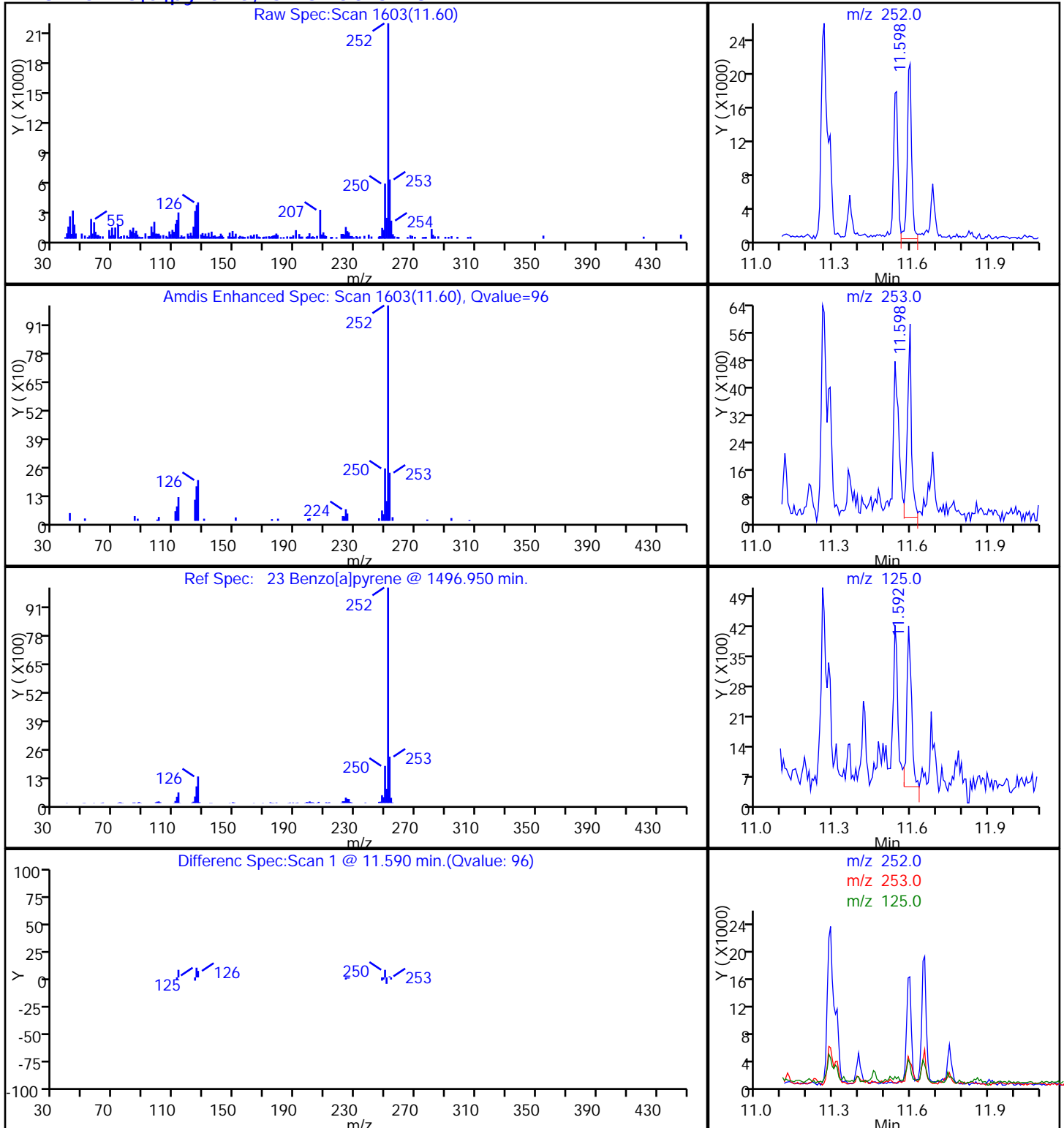
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

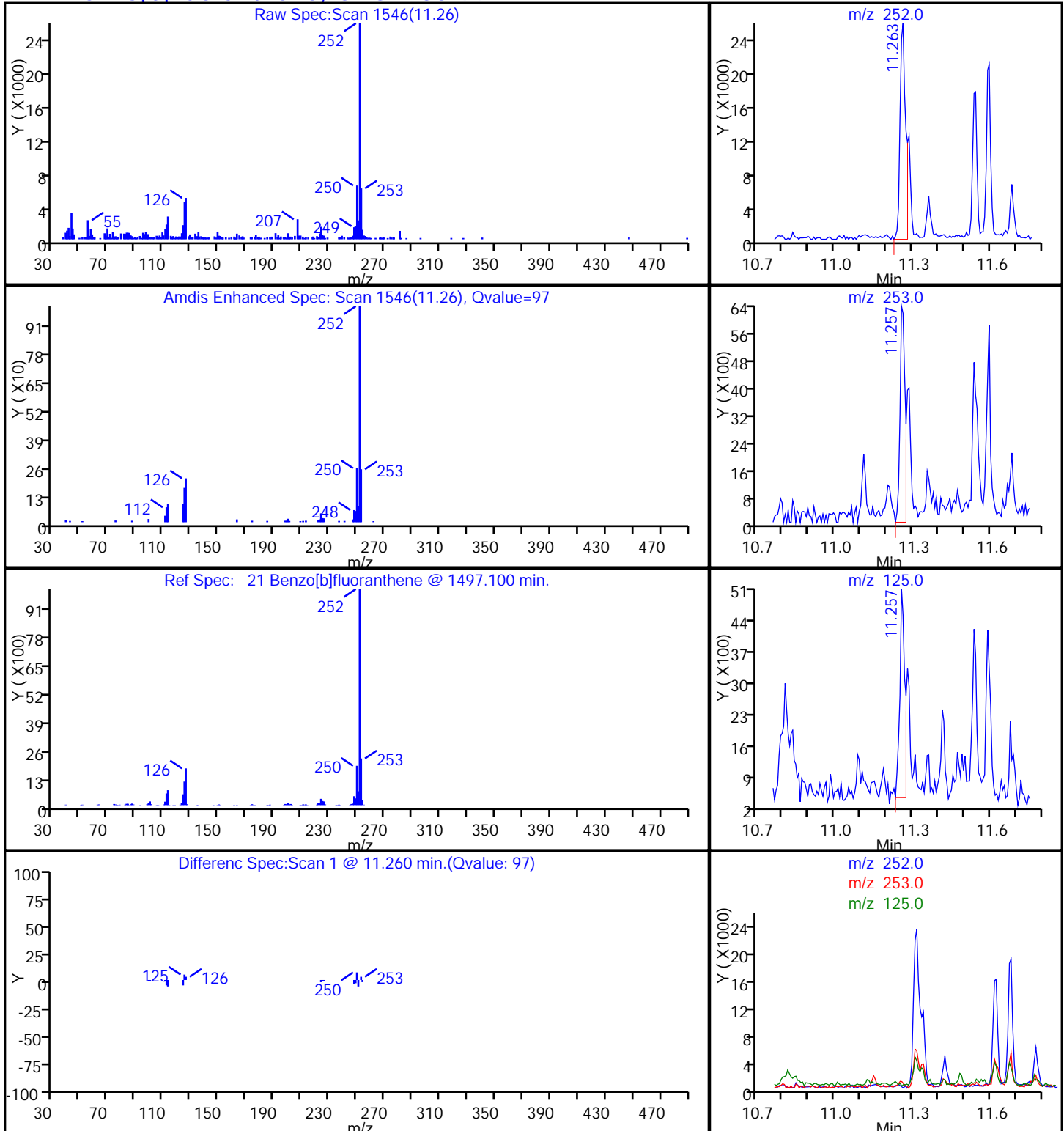
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

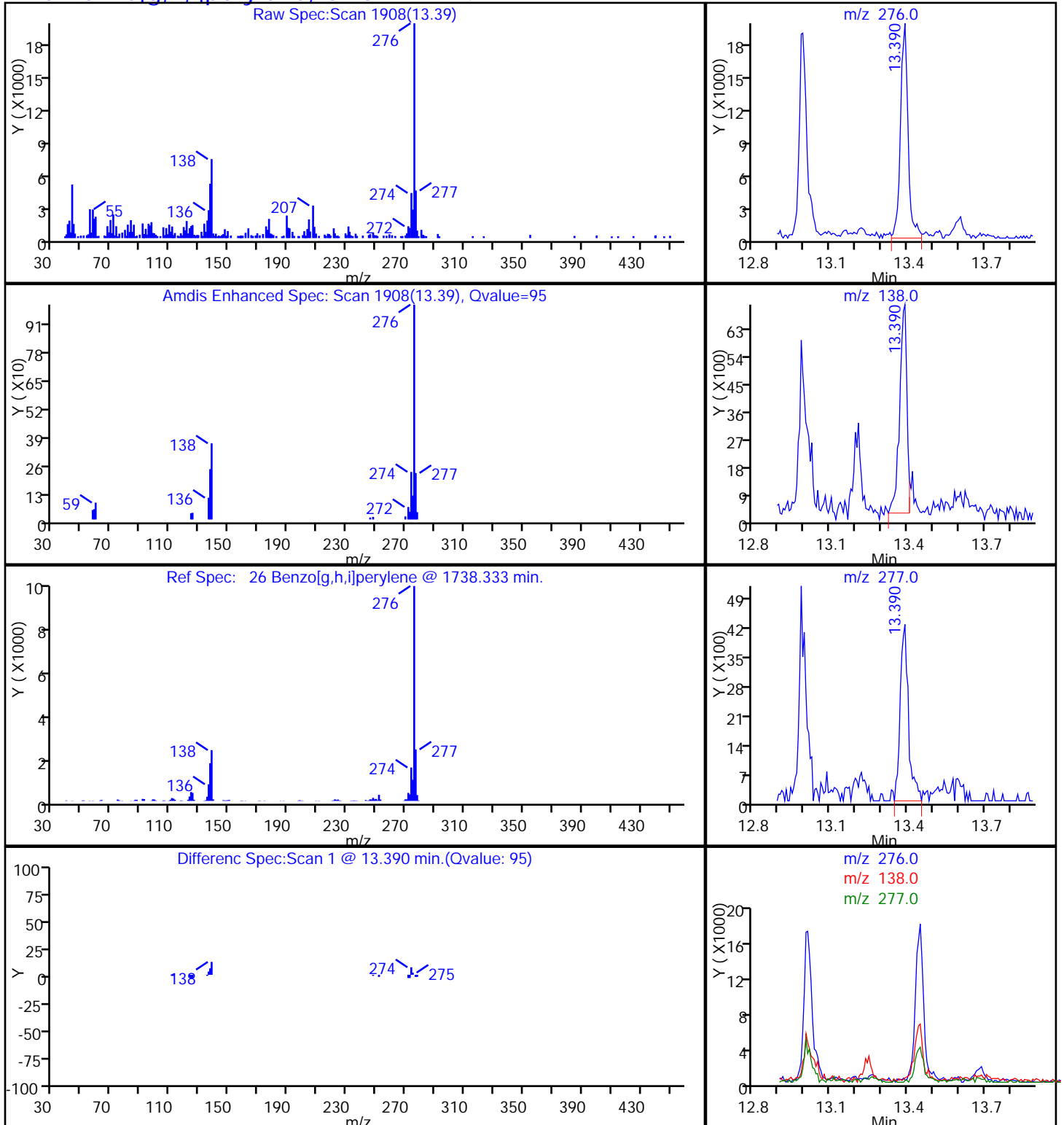
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

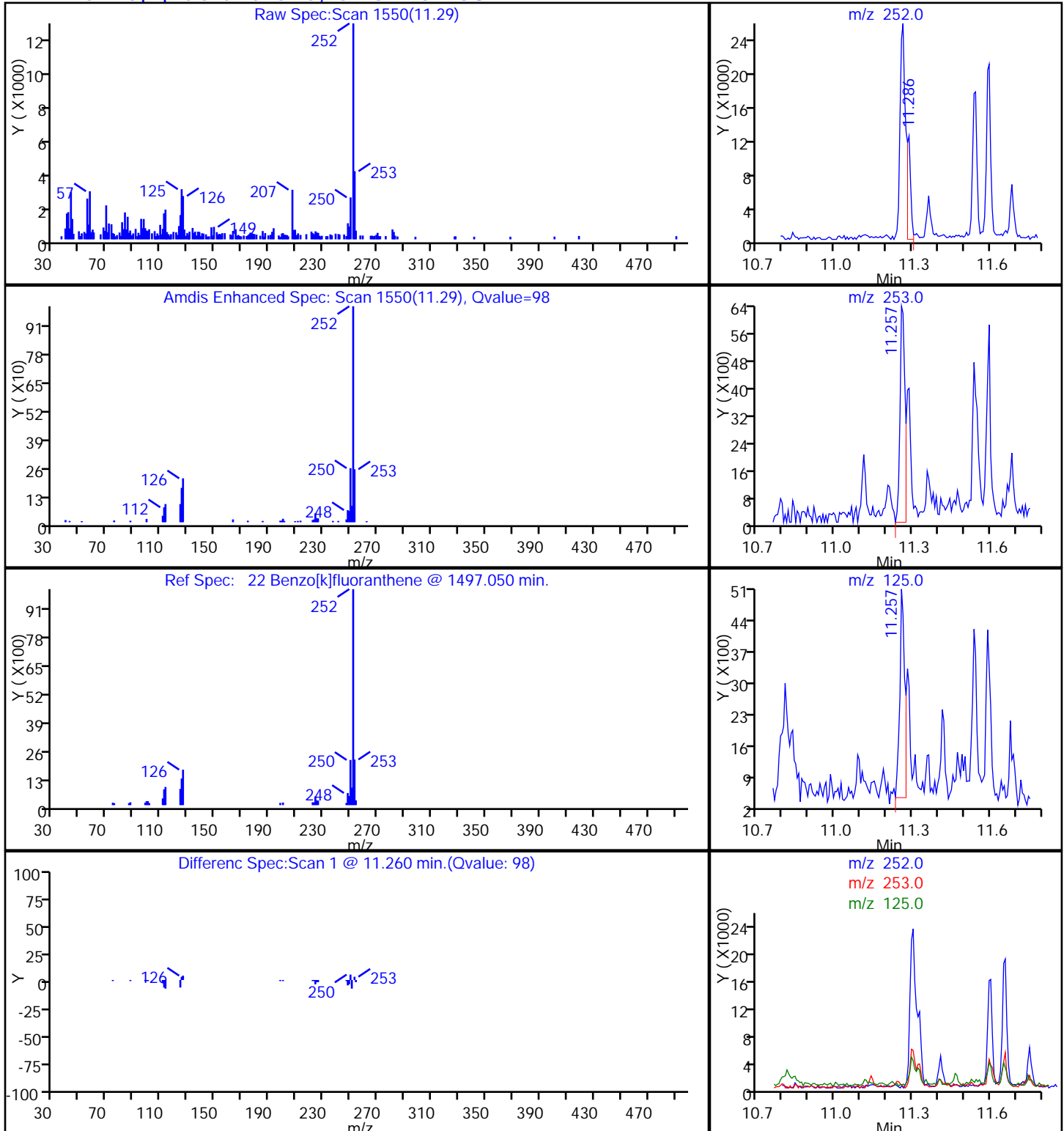
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

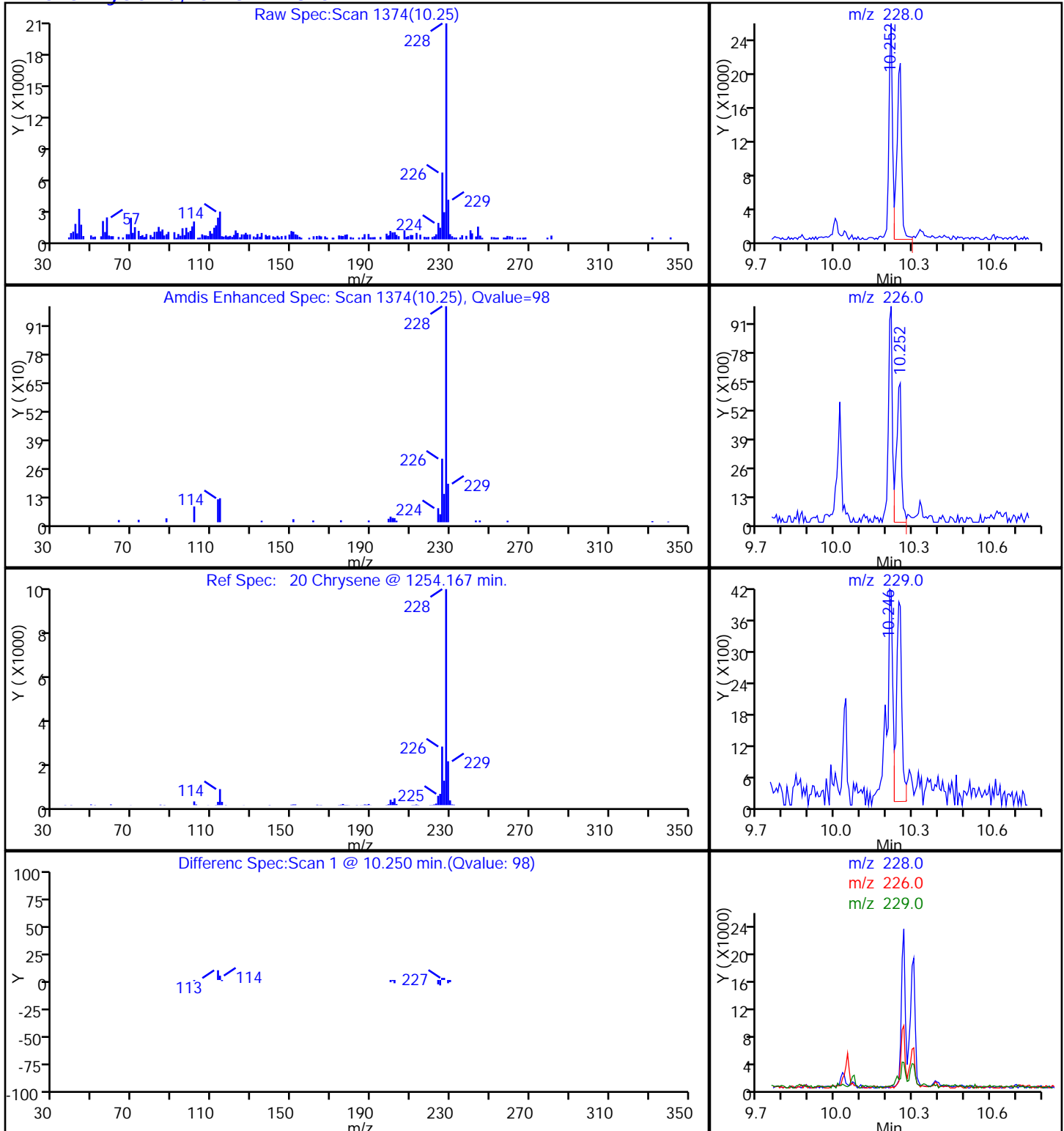
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

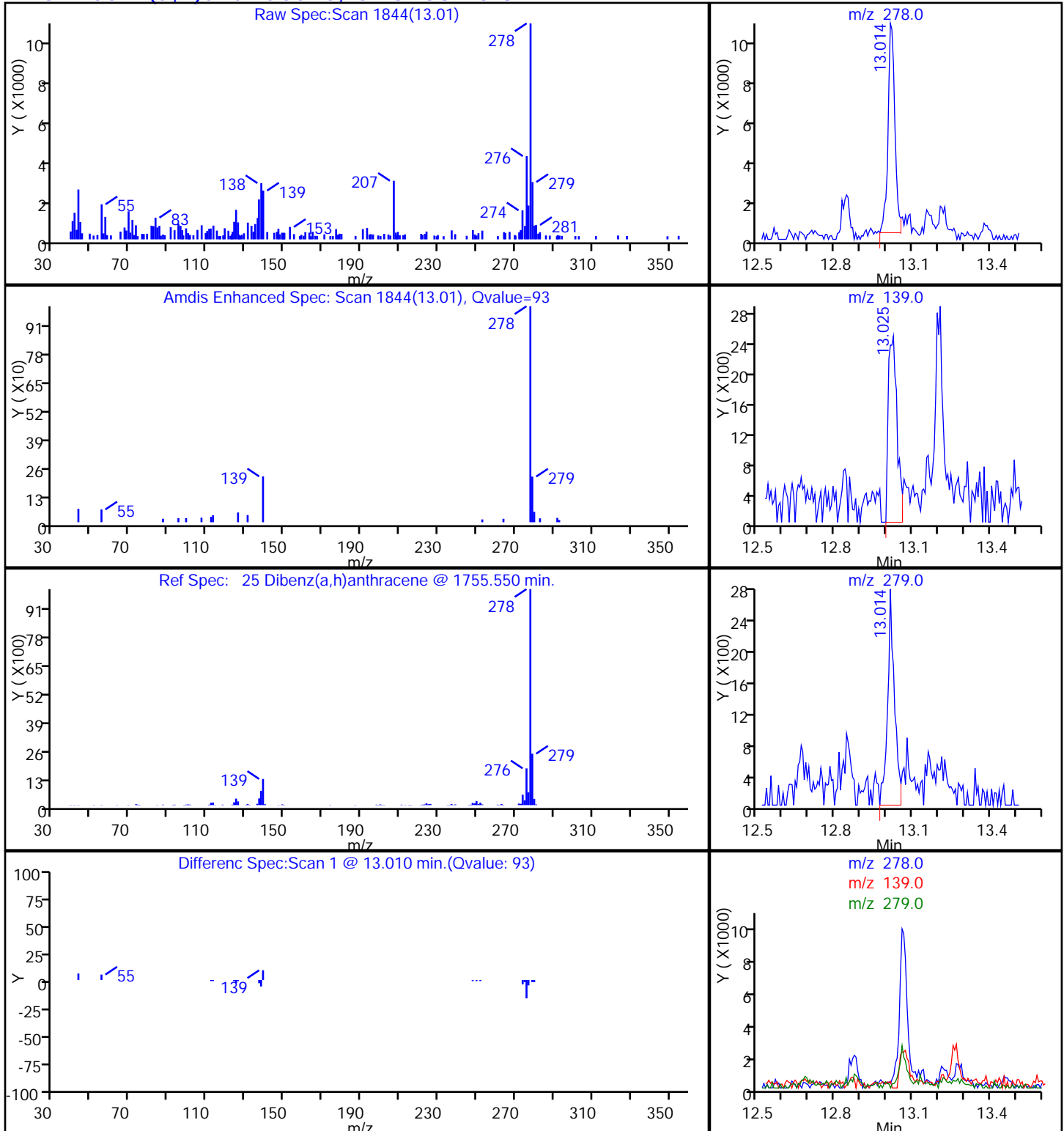
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

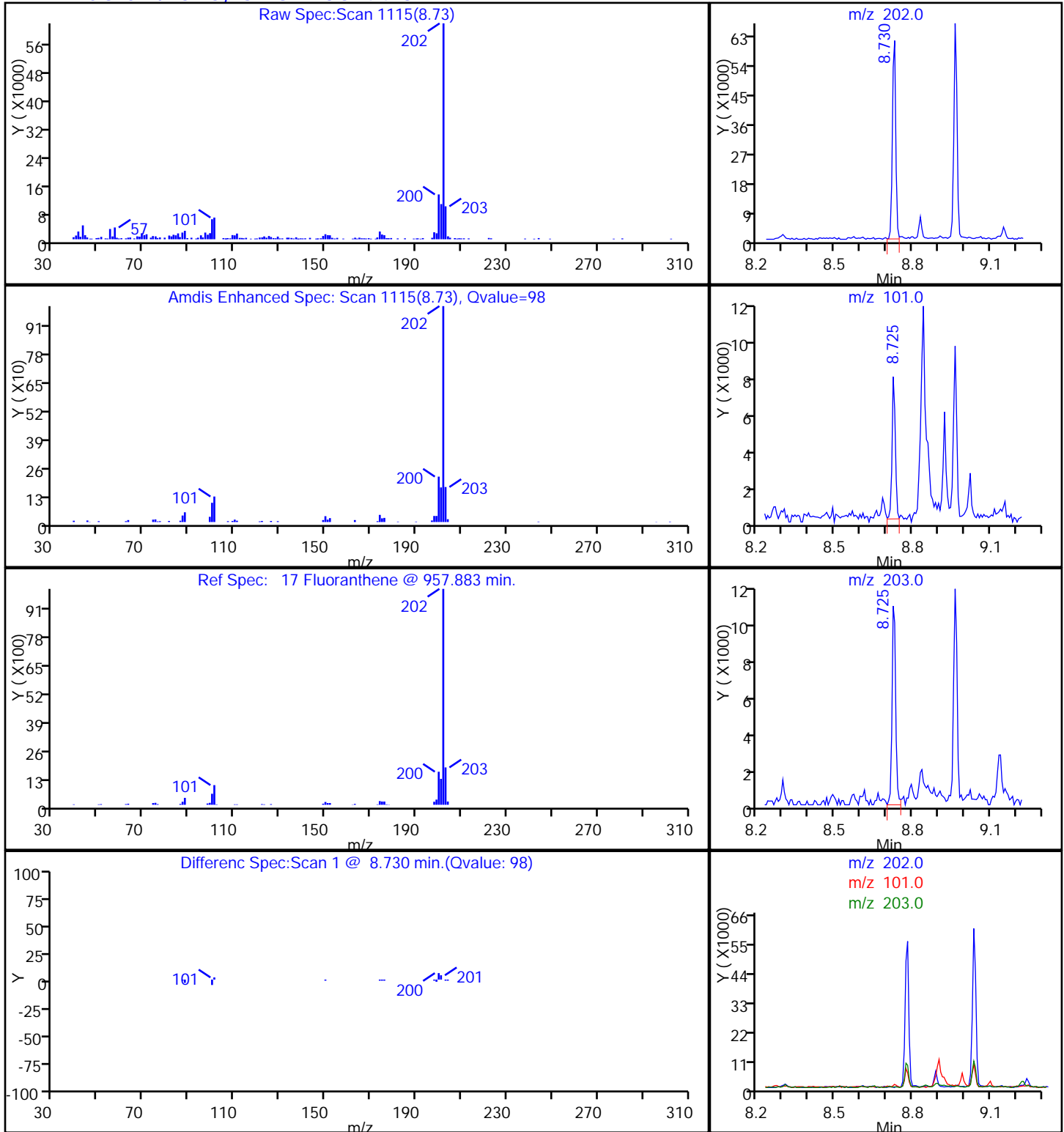
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

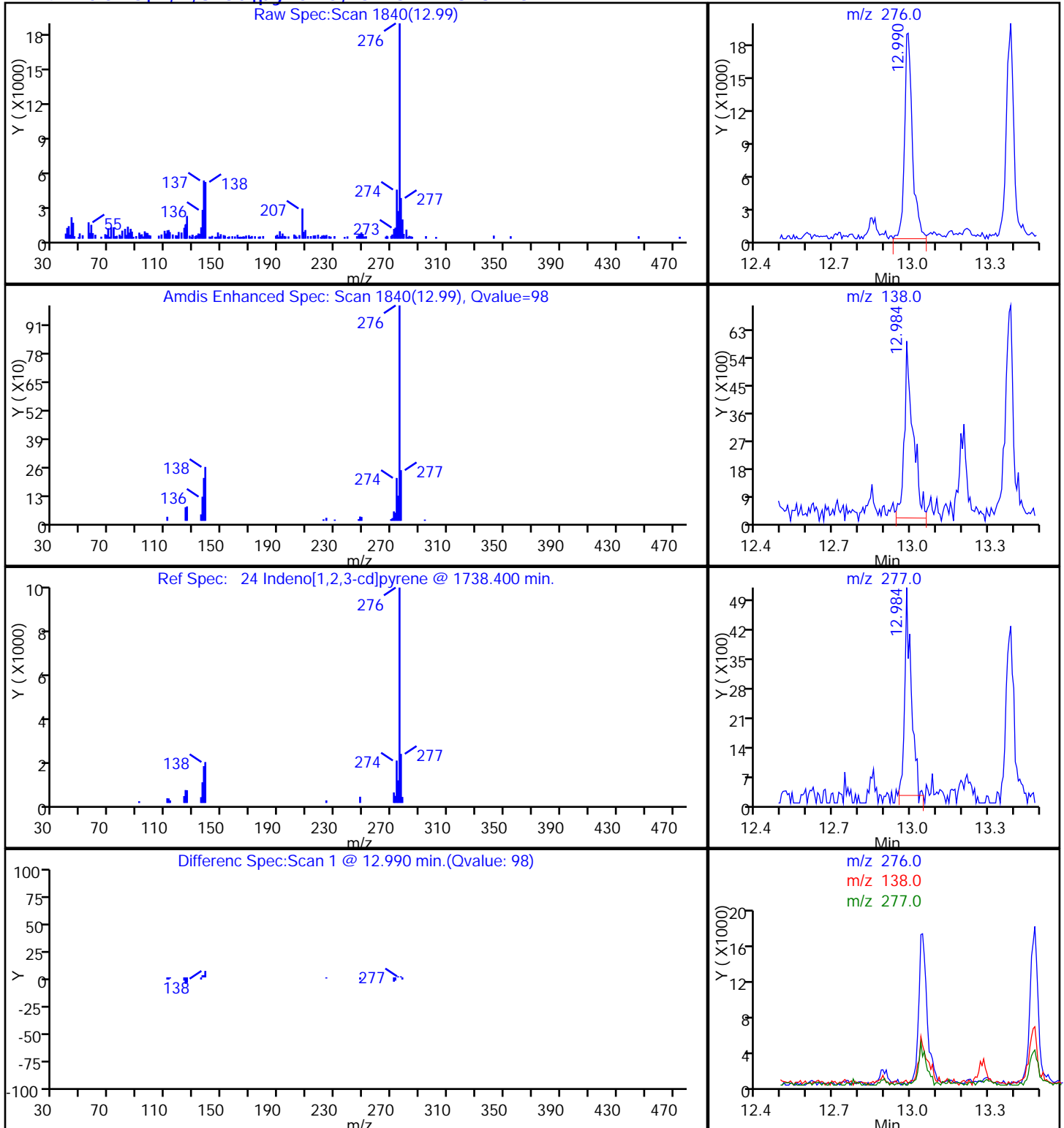
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

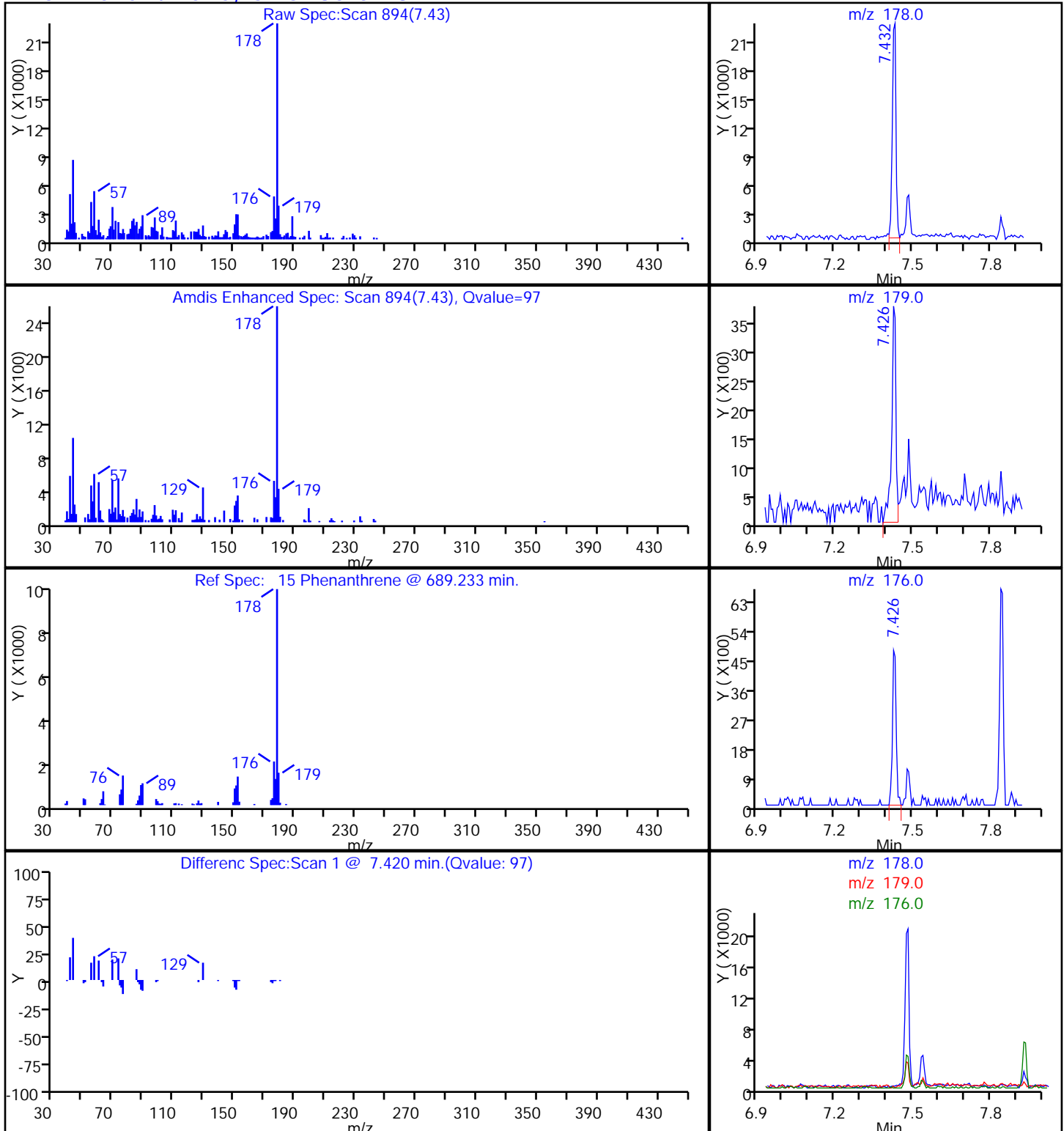
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D

Injection Date: 26-Aug-2014 23:03:30

Instrument ID: CMSK

Lims ID: 680-104534-A-8-A

Lab Sample ID: 680-104534-8

Client ID: HP0085A-CS18"

Operator ID: RM

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

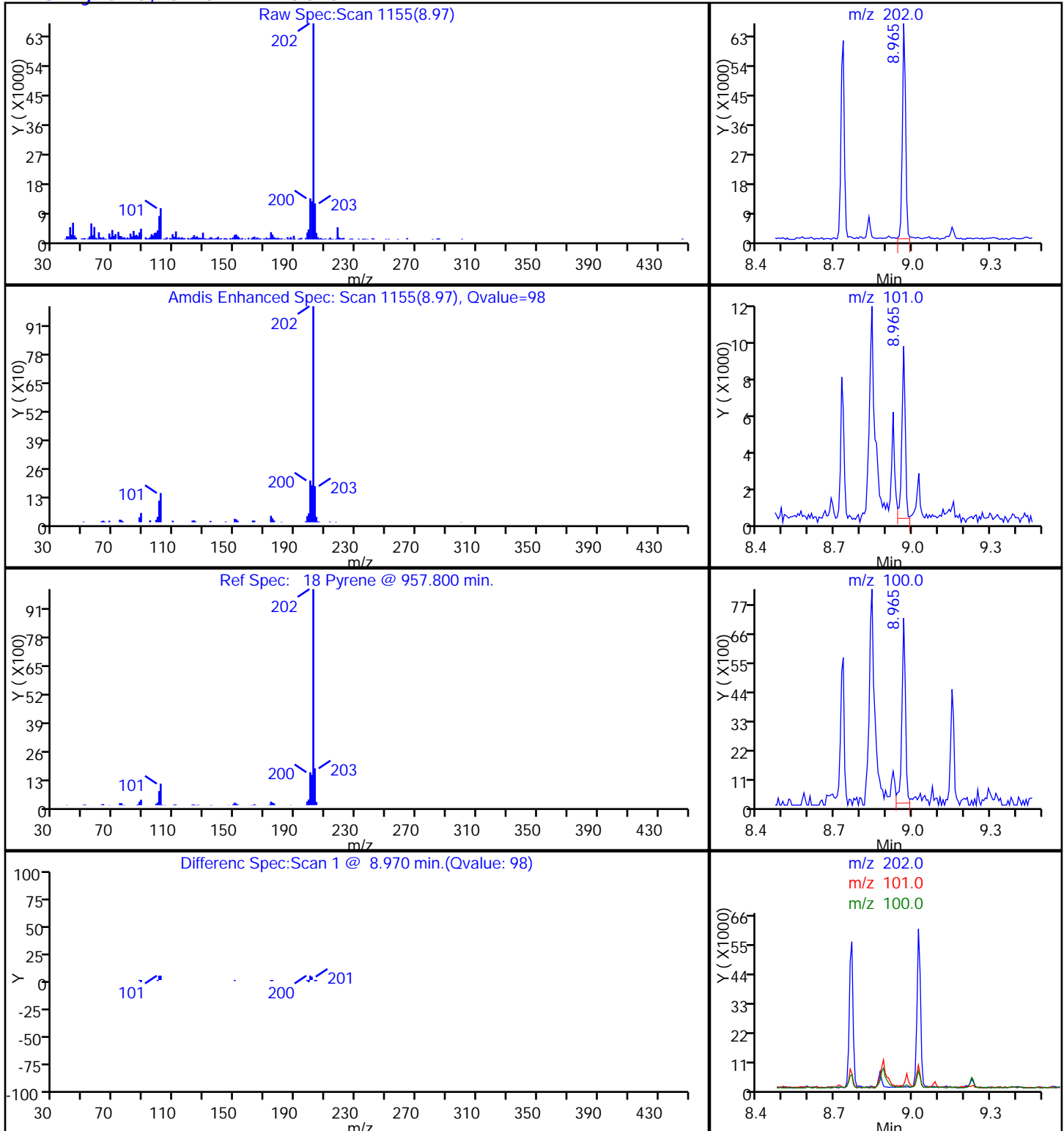
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



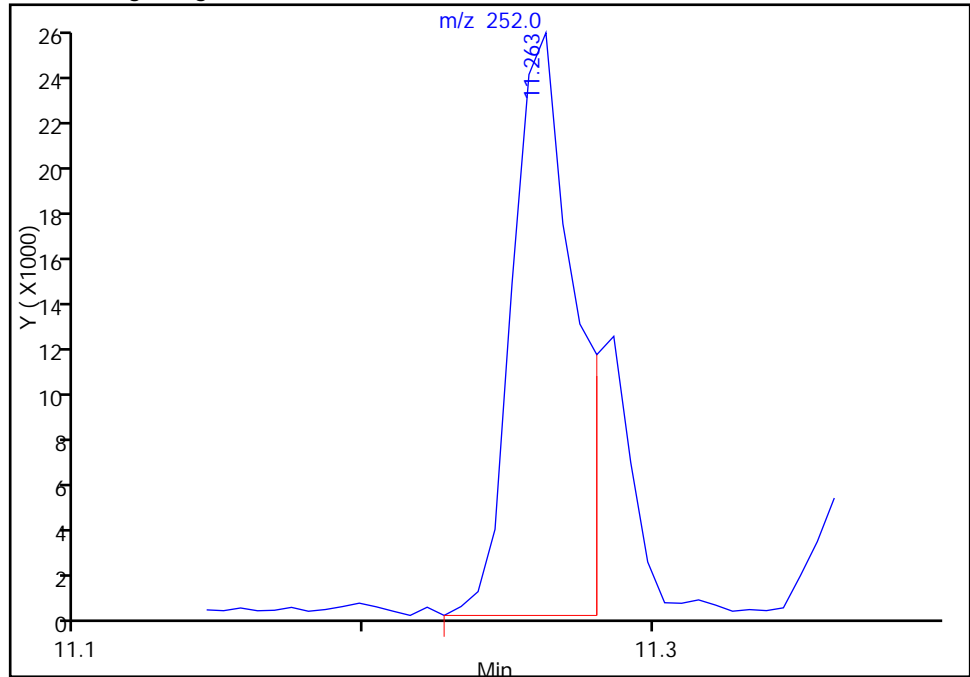
TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2624.D
Injection Date: 26-Aug-2014 23:03:30 Instrument ID: CMSK
Lims ID: 680-104534-A-8-A Lab Sample ID: 680-104534-8
Client ID: HP0085A-CS18"
Operator ID: RM ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8270_LLPAH\CMSK Limit Group: 8270D_LL_PAH
Column: Restek RXi-5Sil MS (0.25 mm) Detector MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

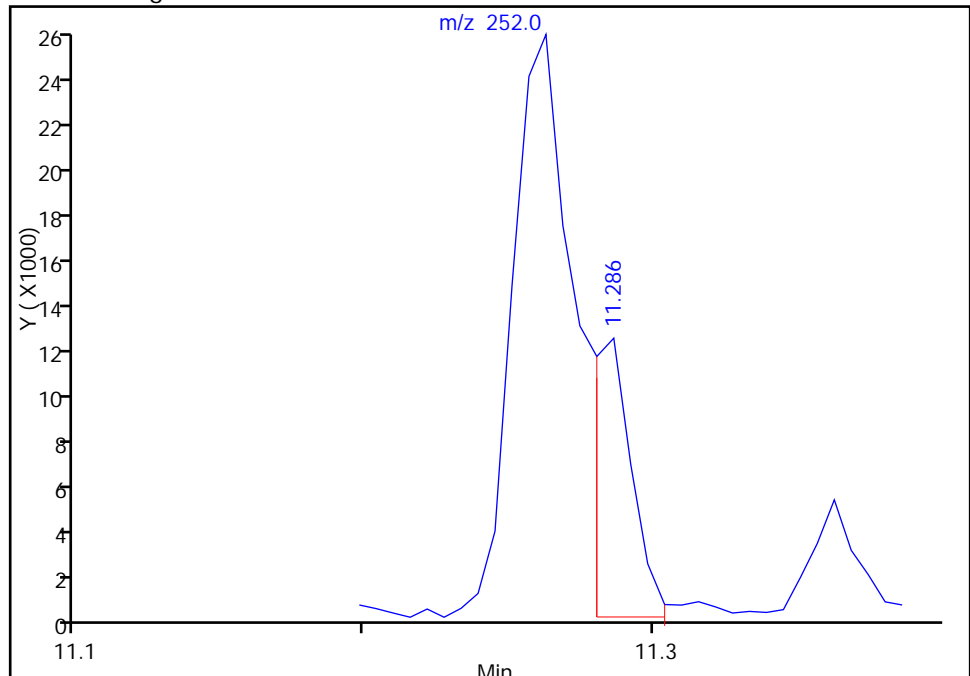
RT: 11.26
Response: 39596
Amount: 0.371007

Processing Integration Results



RT: 11.29
Response: 11915
Amount: 0.111641

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 08:31:14
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085A-CS24"</u>	Lab Sample ID: <u>680-104534-9</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2625.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 09:40</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/26/2014 23:26</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>14.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.8	U	7.8	3.9
208-96-8	Acenaphthylene	7.8	U	7.8	3.9
120-12-7	Anthracene	7.8	U	7.8	3.9
56-55-3	Benzo[a]anthracene	31		7.8	3.9
50-32-8	Benzo[a]pyrene	38		7.8	1.4
205-99-2	Benzo[b]fluoranthene	49		7.8	3.9
191-24-2	Benzo[g,h,i]perylene	32		7.8	3.9
207-08-9	Benzo[k]fluoranthene	20		7.8	2.3
218-01-9	Chrysene	32		7.8	3.9
53-70-3	Dibenz(a,h)anthracene	8.2		7.8	3.9
206-44-0	Fluoranthene	55		7.8	3.9
86-73-7	Fluorene	7.8	U	7.8	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	28		7.8	3.9
90-12-0	1-Methylnaphthalene	7.8	U	7.8	3.6
91-57-6	2-Methylnaphthalene	7.8	U	7.8	3.9
91-20-3	Naphthalene	5.4	J	7.8	3.9
85-01-8	Phenanthrene	17		7.8	2.8
129-00-0	Pyrene	61		7.8	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	108		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D
 Lims ID: 680-104534-A-9-A Lab Sample ID: 680-104534-9
 Client ID: HP0085A-CS24"
 Sample Type: Client
 Inject. Date: 26-Aug-2014 23:26:30 ALS Bottle#: 25 Worklist Smp#: 25
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-9-A
 Misc. Info.: 680-0012269-025
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 11:33:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.018	4.024	-0.006	98	565344	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	86	281266	2.00	
* 3 Phenanthrene-d10	188	7.402	7.408	-0.006	97	355547	2.00	
* 4 Chrysene-d12	240	10.223	10.229	-0.006	96	244151	2.00	
* 5 Perylene-d12	264	11.656	11.668	-0.012	96	210196	2.00	
\$ 6 o-Terphenyl	230	7.849	7.849	0.000	86	213398	2.15	
7 Naphthalene	128	4.036	4.042	-0.006	77	35295	0.1375	
9 2-Methylnaphthalene	142	4.711	4.717	-0.006	75	8810	0.0574	
8 1-Methylnaphthalene	142	4.811	4.811	-0.006	36	5258	0.0346	7
11 Acenaphthylene	152	5.646	5.646	0.000	71	13726	0.0640	
15 Phenanthrene	178	7.426	7.432	-0.006	97	74825	0.4433	
16 Anthracene	178	7.485	7.485	0.000	74	14193	0.0891	
17 Fluoranthene	202	8.730	8.730	0.000	97	240114	1.42	
18 Pyrene	202	8.965	8.971	-0.006	93	243312	1.56	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	97	87647	0.8038	
20 Chrysene	228	10.252	10.252	0.000	94	88028	0.8229	
21 Benzo[b]fluoranthene	252	11.257	11.269	-0.012	96	130337	1.25	
22 Benzo[k]fluoranthene	252	11.280	11.298	-0.018	92	56339	0.5185	M
23 Benzo[a]pyrene	252	11.592	11.610	-0.018	85	89323	0.9707	
24 Indeno[1,2,3-cd]pyrene	276	12.984	13.002	-0.018	90	70899	0.7180	
25 Dibenz(a,h)anthracene	278	13.014	13.037	-0.023	86	19471	0.2108	
26 Benzo[g,h,i]perylene	276	13.384	13.402	-0.018	88	77616	0.8332	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Worklist Smp#: 25

Client ID: HP0085A-CS24"

Injection Vol: 2.0 ul

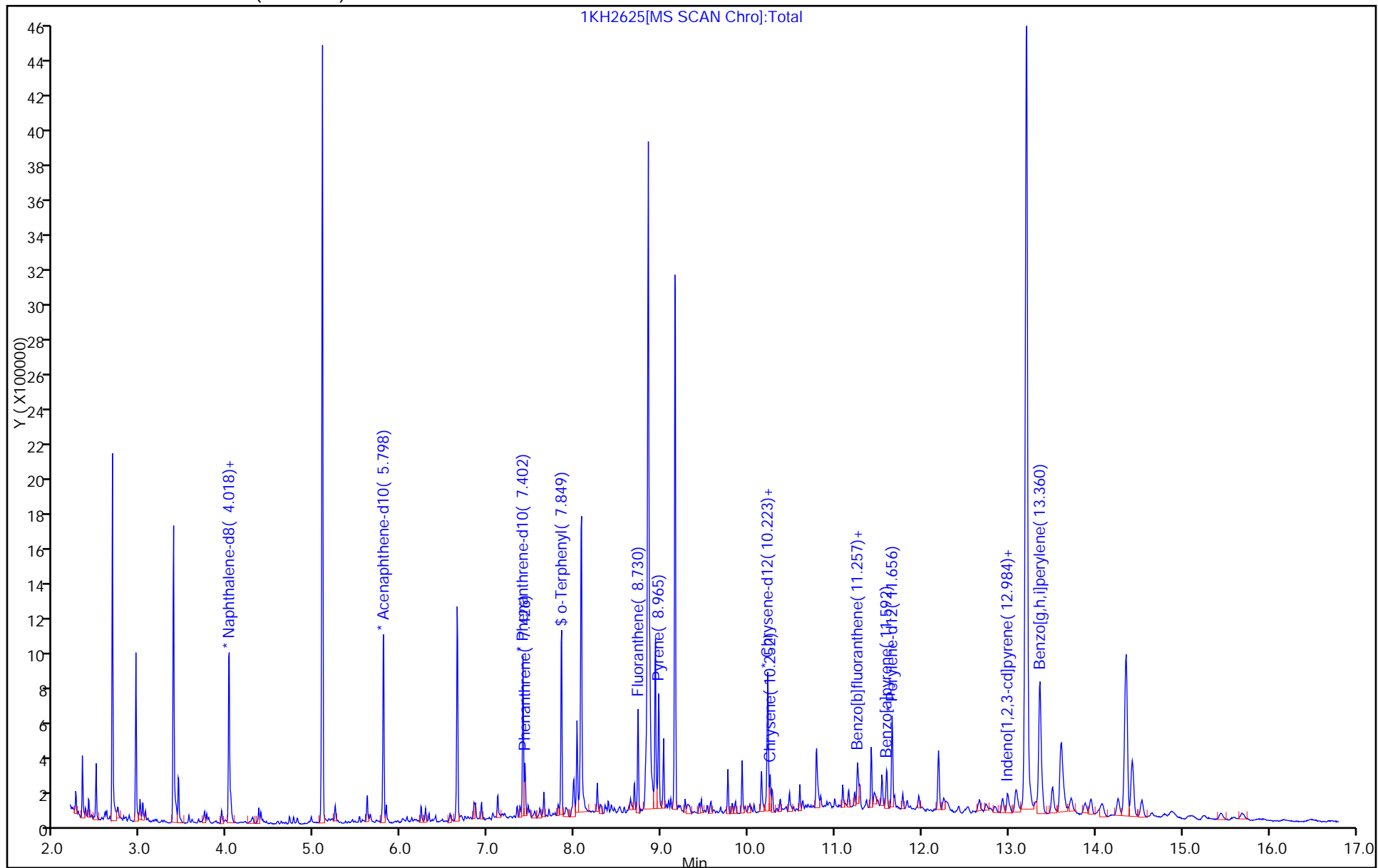
Dil. Factor: 1.0000

ALS Bottle#: 25

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

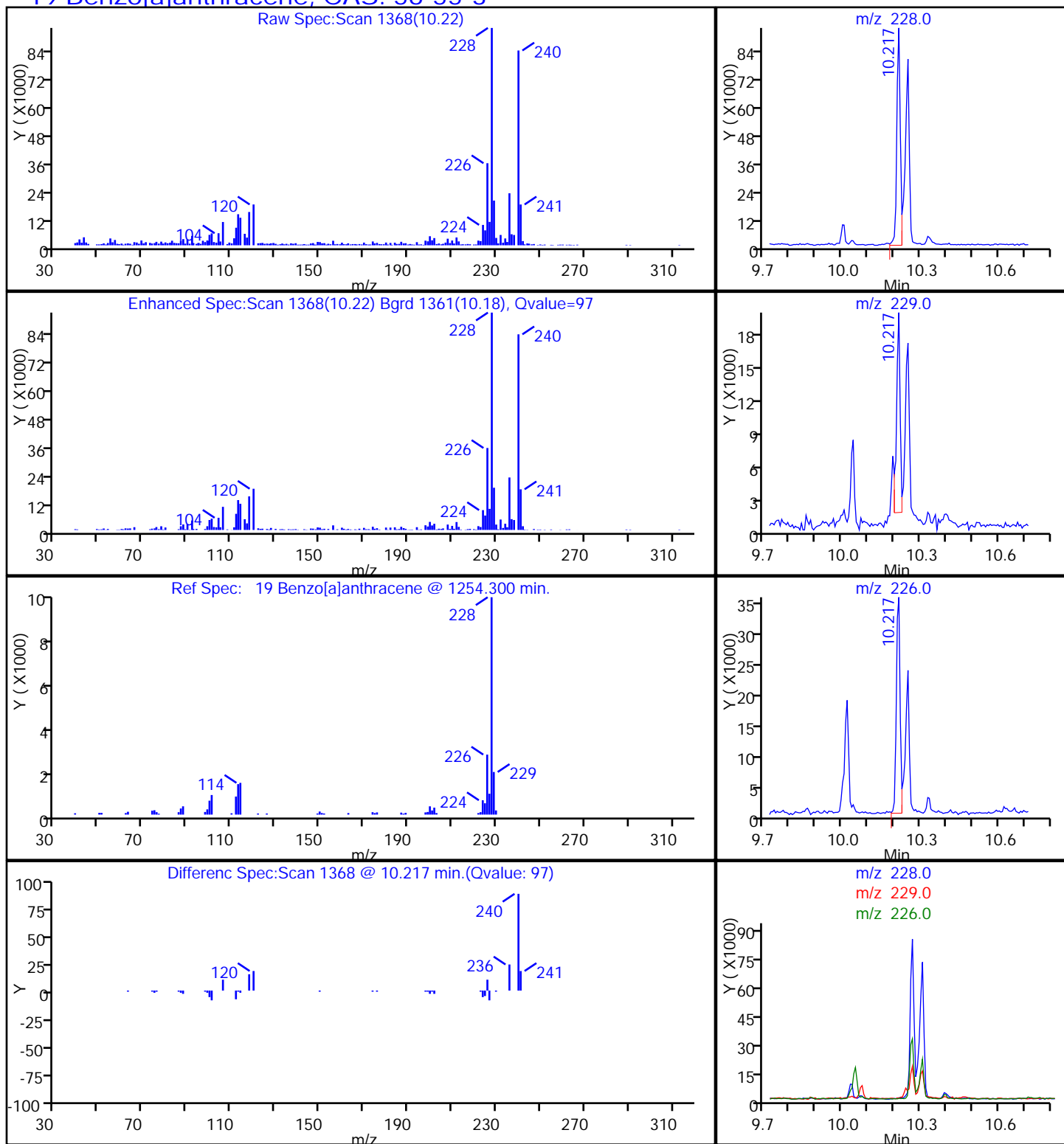
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

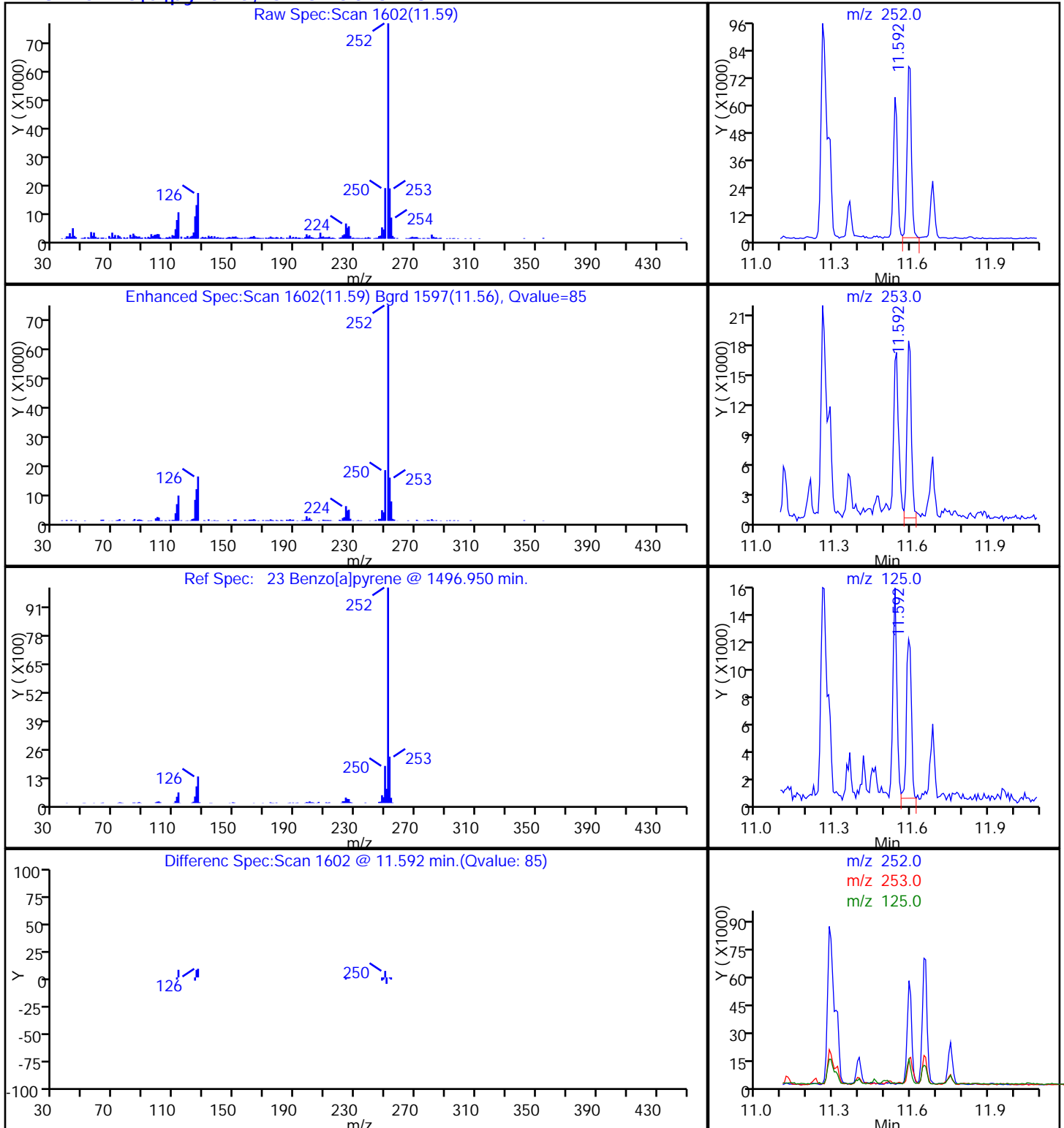
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

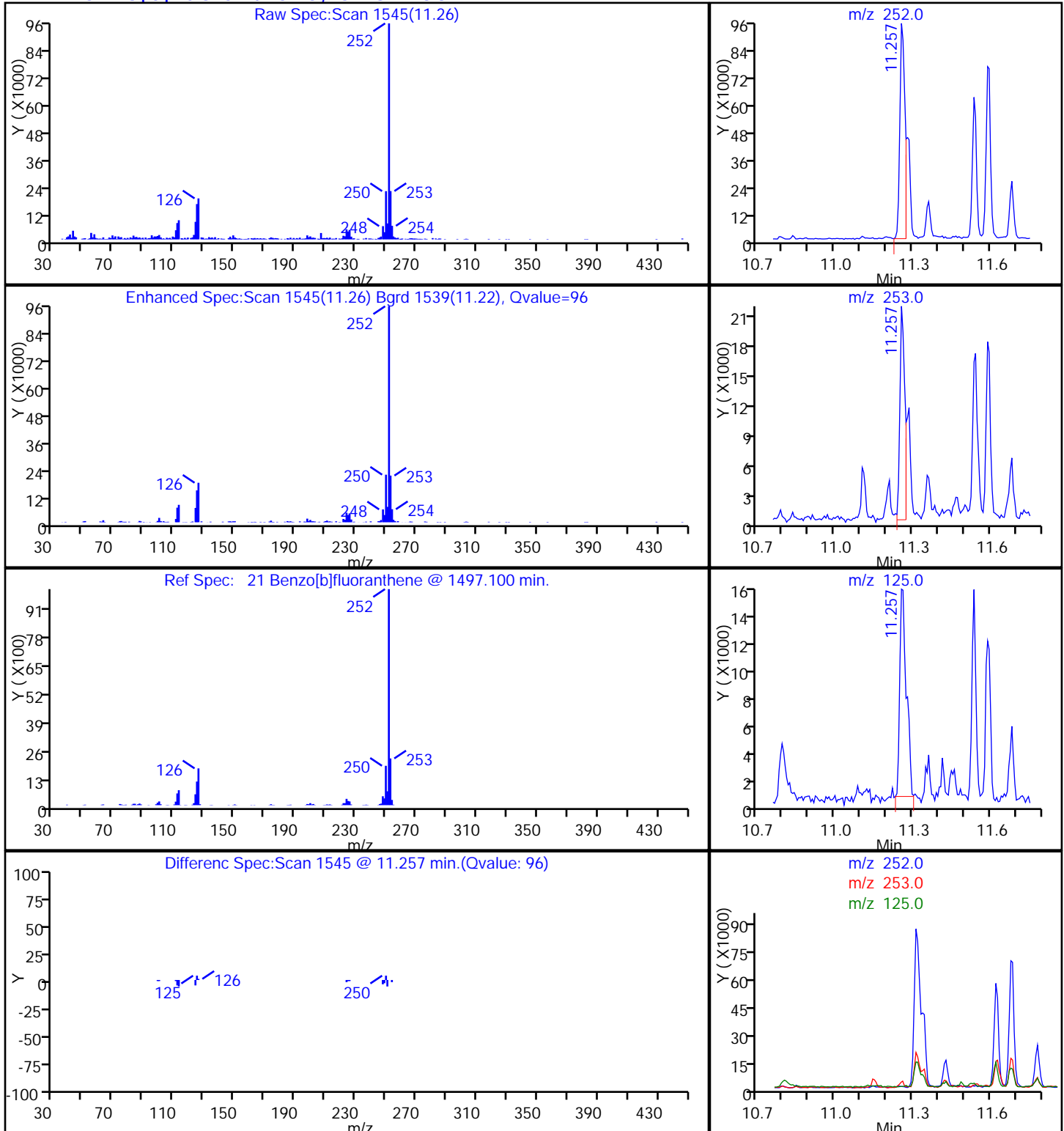
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

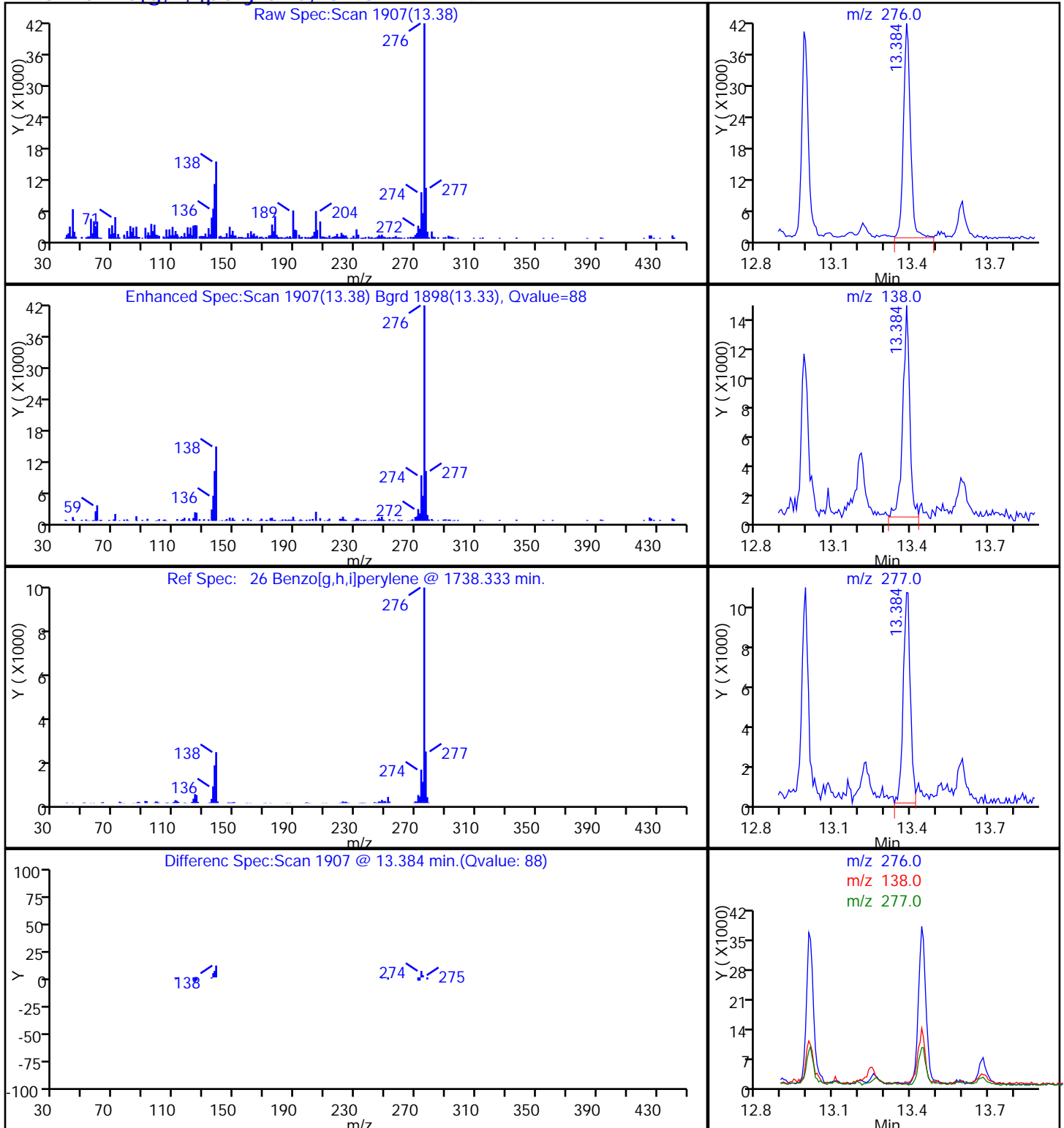
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

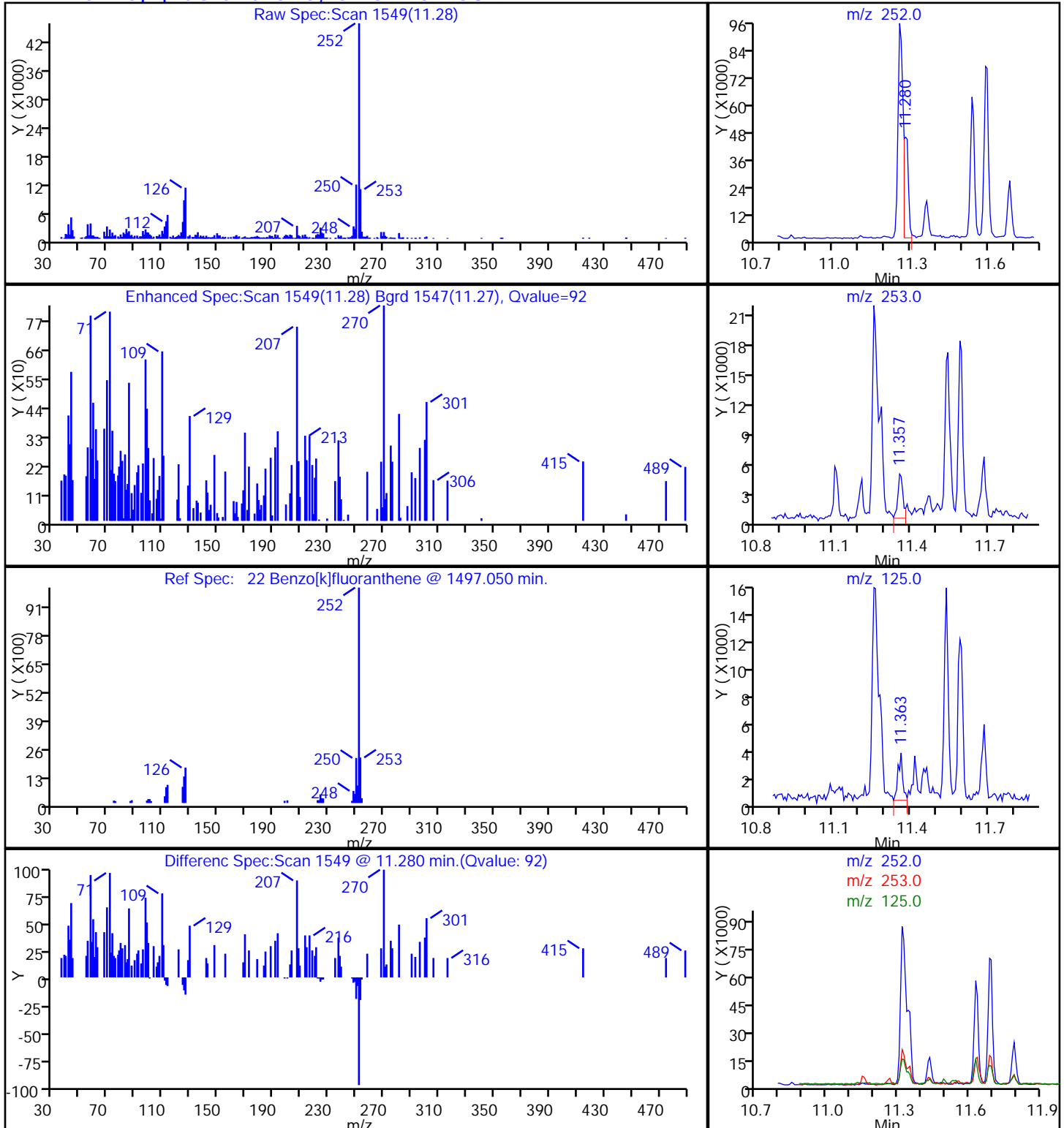
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

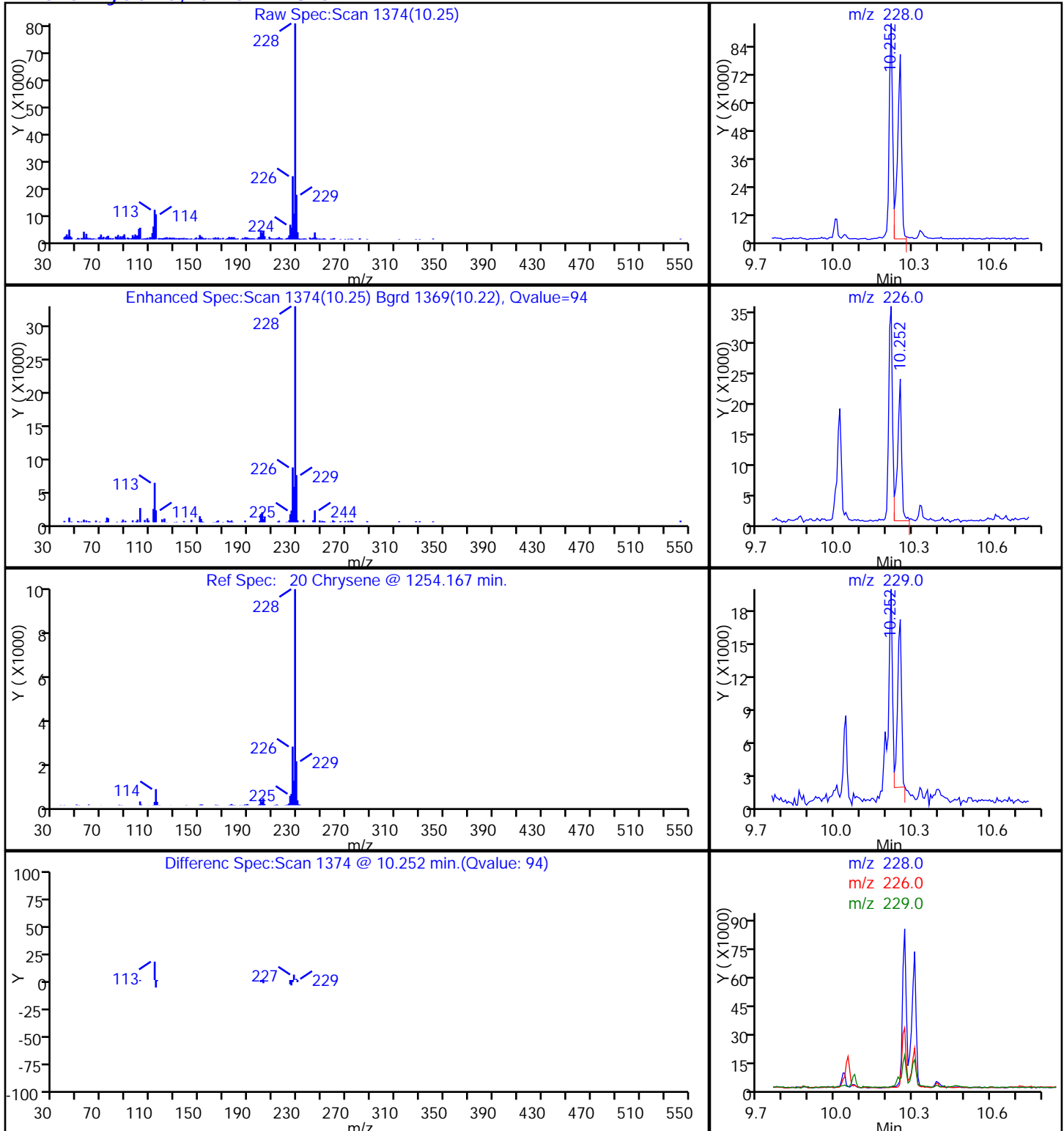
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

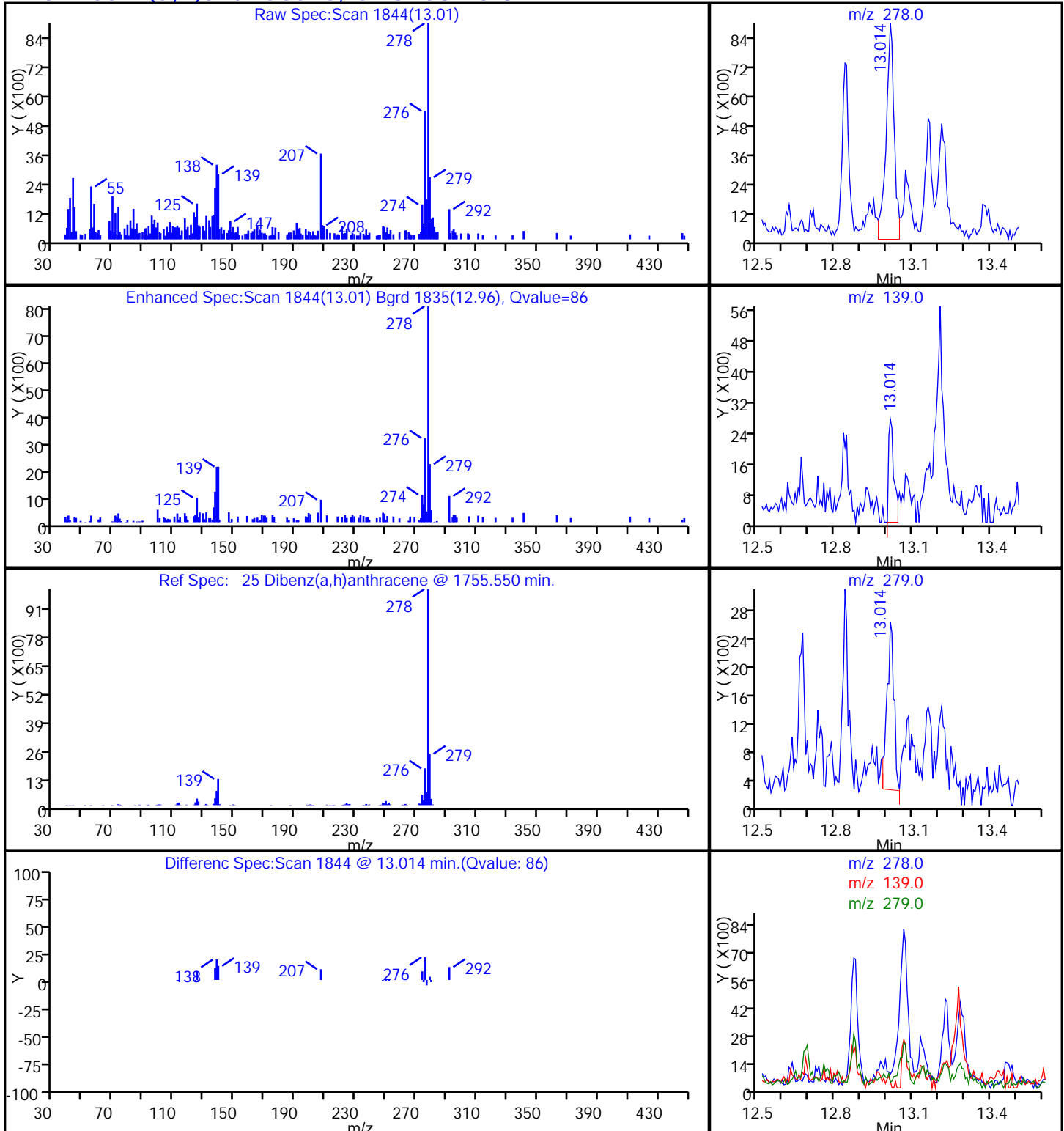
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

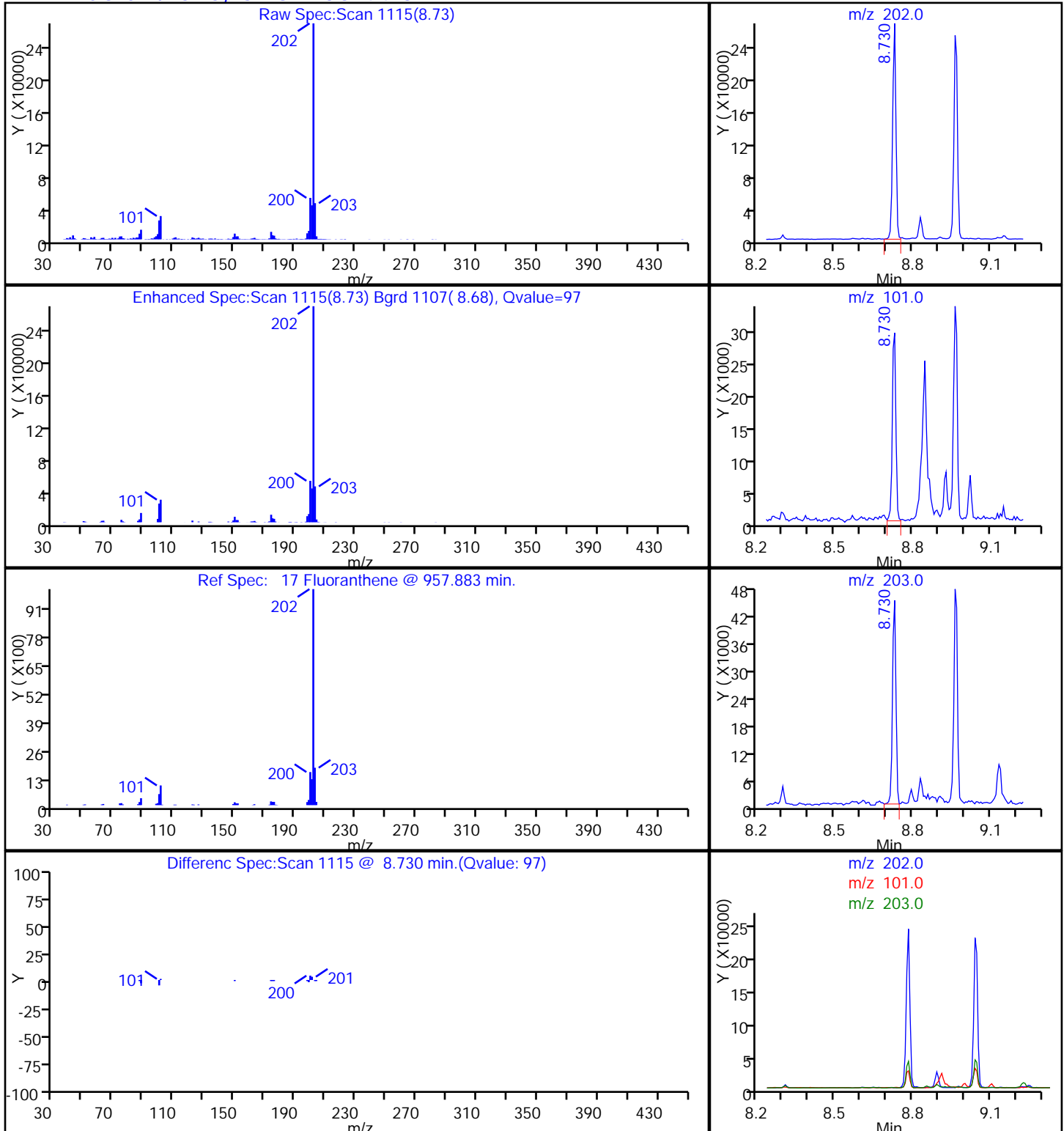
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

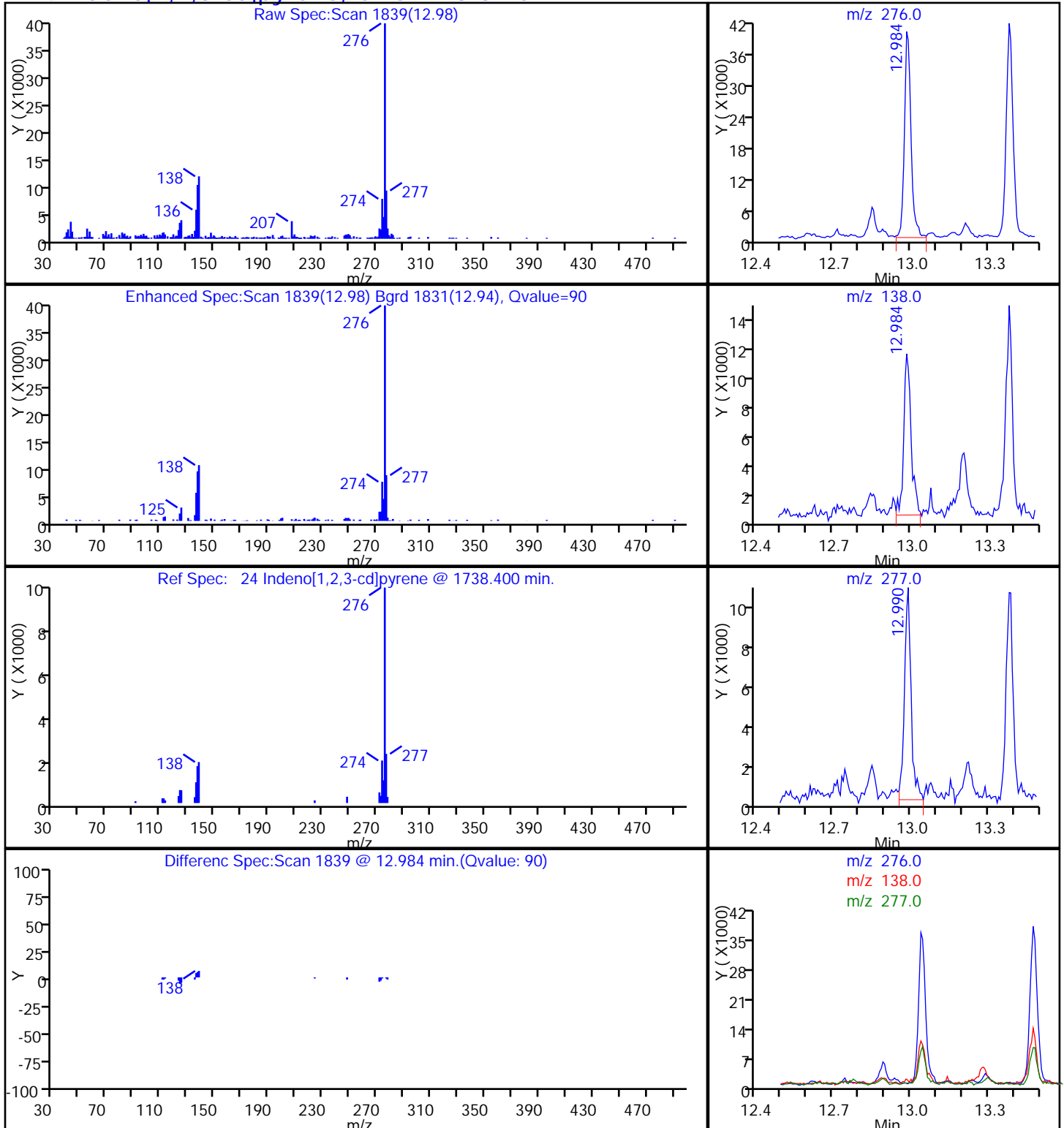
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

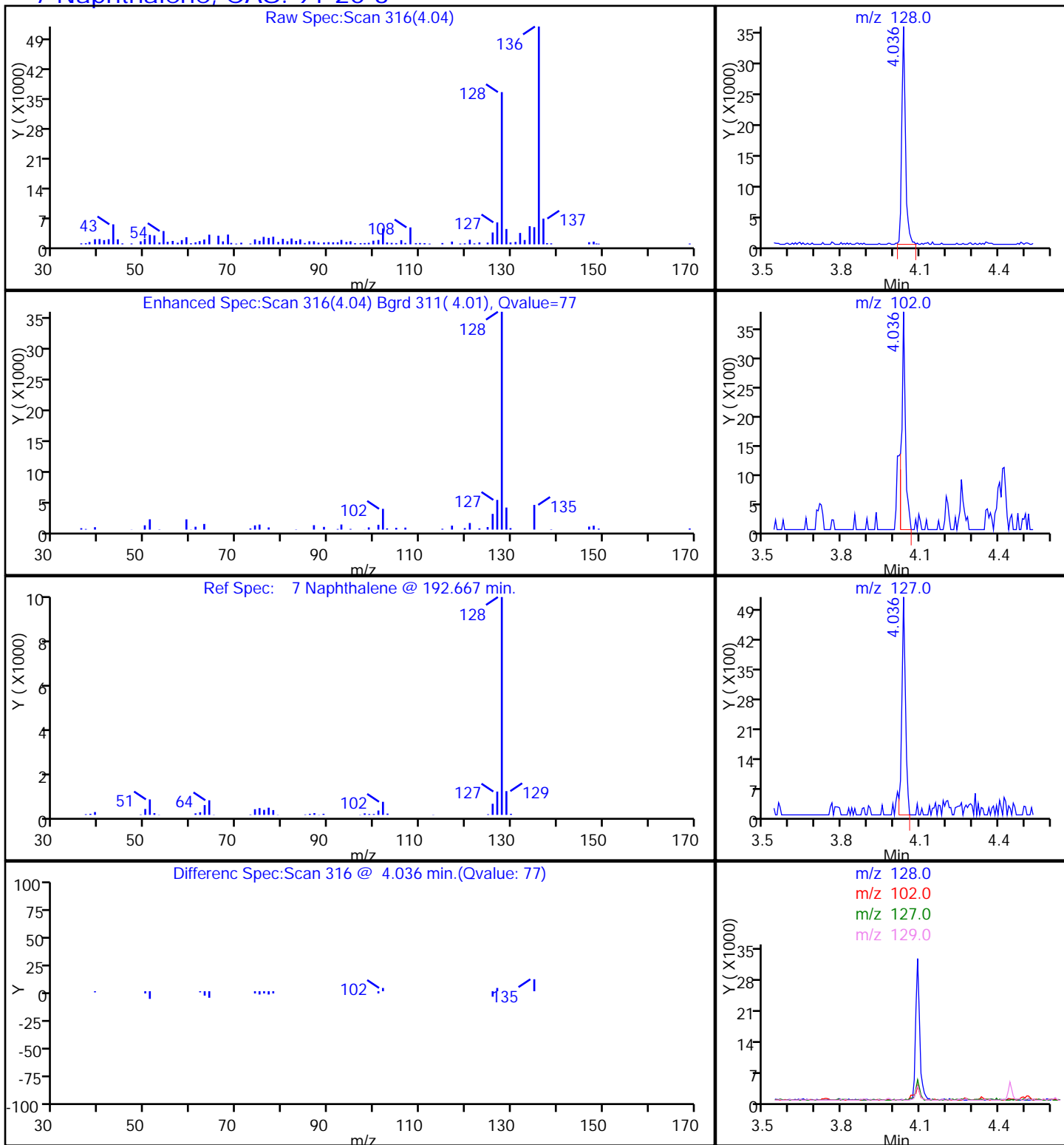
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

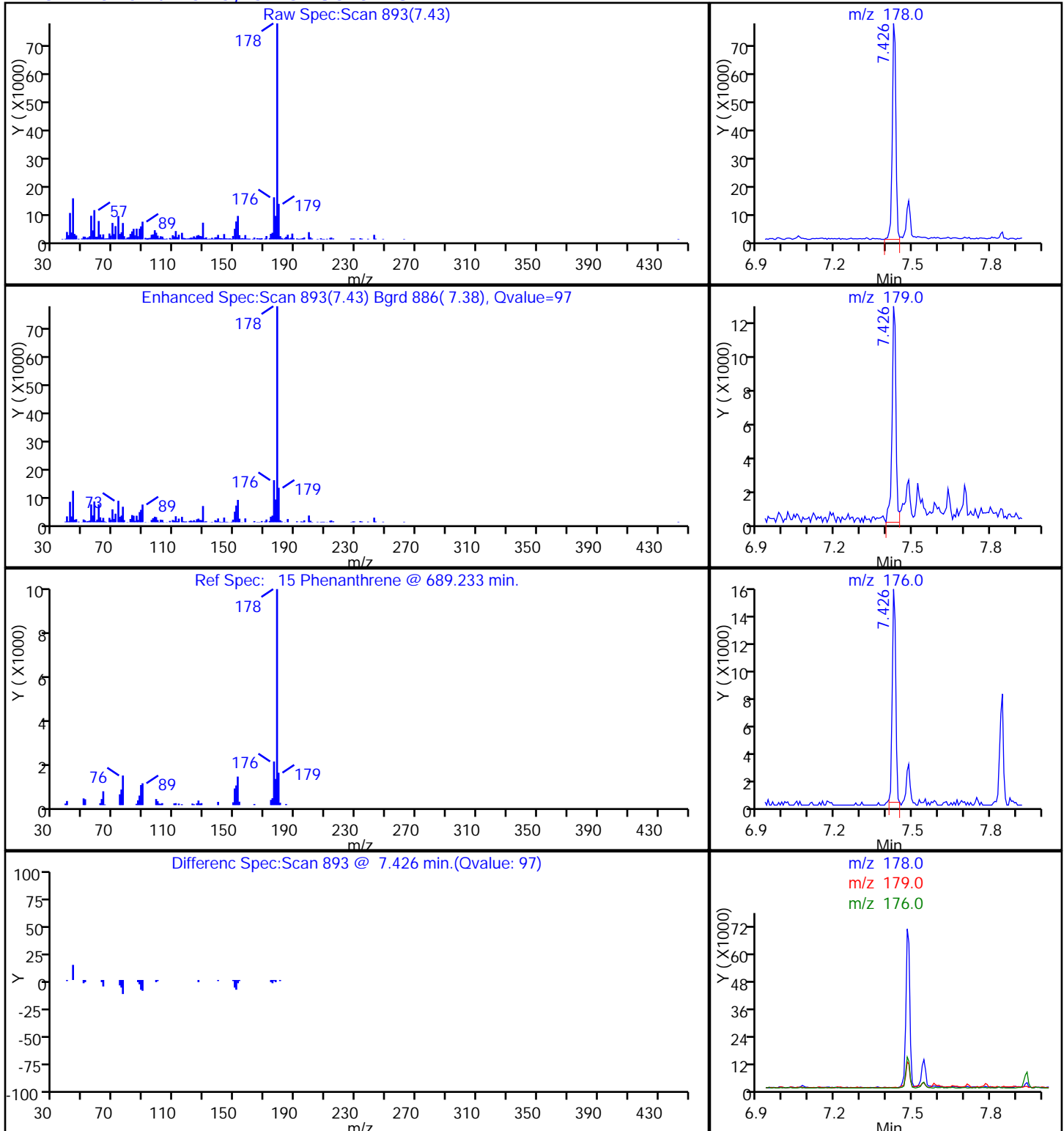
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#: 25

Worklist Smp#: 25

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

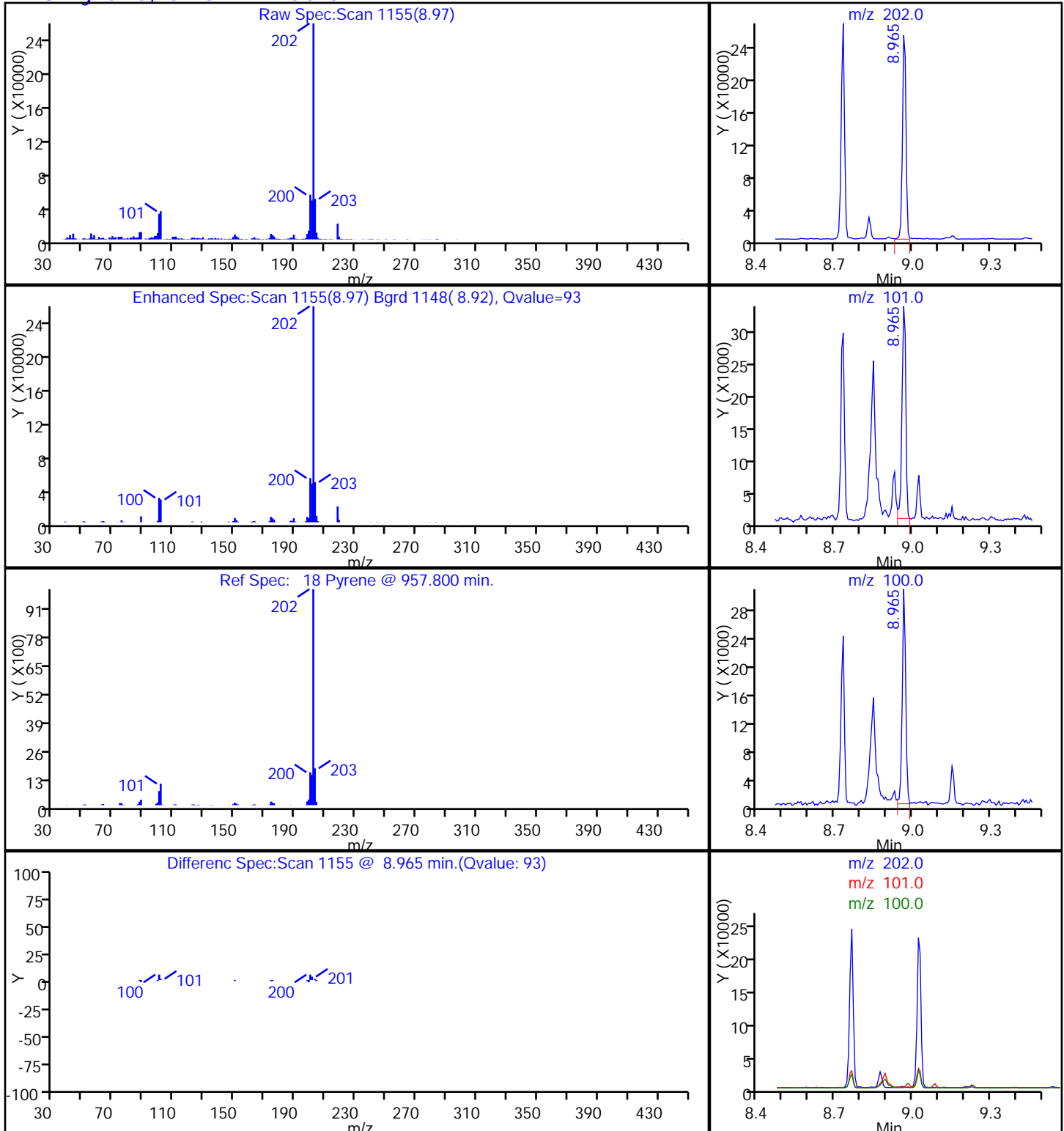
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2625.D

Injection Date: 26-Aug-2014 23:26:30

Instrument ID: CMSK

Lims ID: 680-104534-A-9-A

Lab Sample ID: 680-104534-9

Client ID: HP0085A-CS24"

Operator ID: RM

ALS Bottle#:

25

Worklist Smp#: 25

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270_LLPAH\CMSK

Limit Group: 8270D_LL_PAH

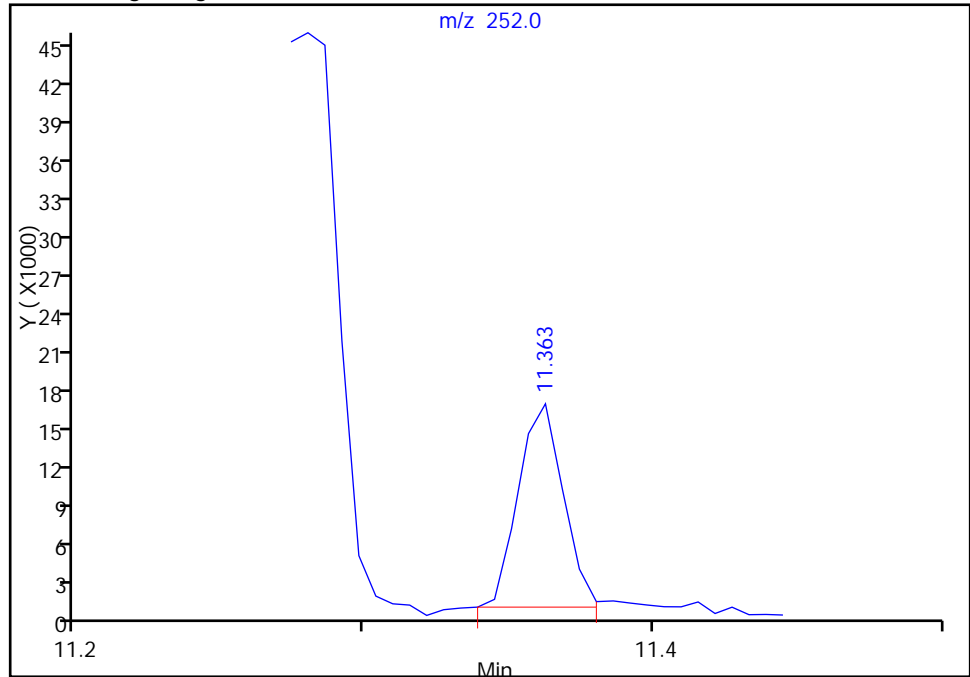
Column: Restek Rxi-5Sil MS (0.25 mm)

Detector: MS SCAN

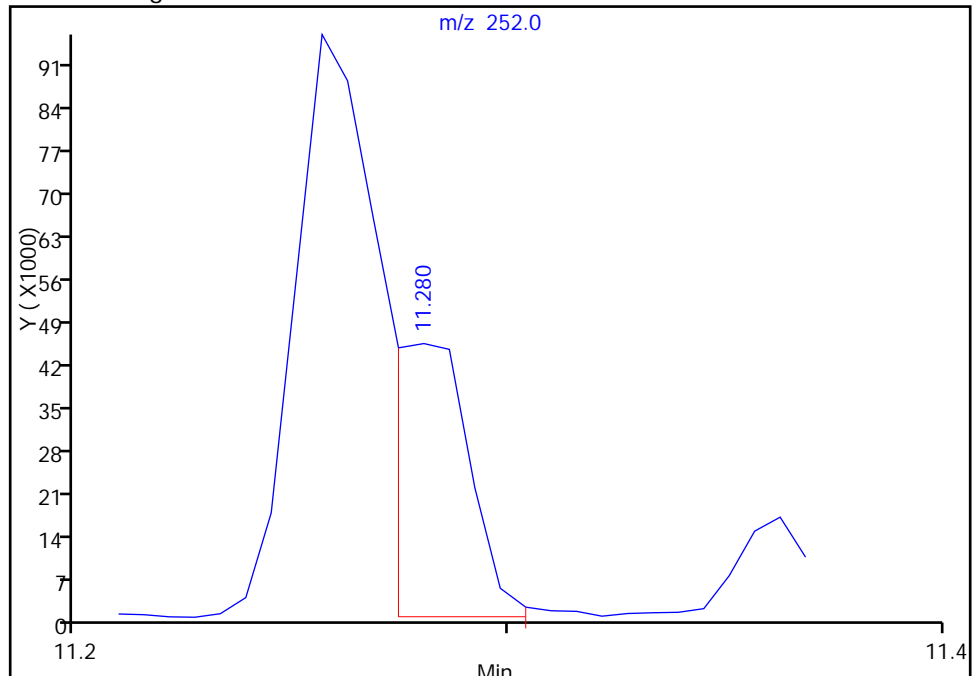
22 Benzo[k]fluoranthene, CAS: 207-08-9

RT: 11.36
Response: 16853
Amount: 0.155095

Processing Integration Results

RT: 11.28
Response: 56339
Amount: 0.518478

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 11:21:45

Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS6"</u>	Lab Sample ID: <u>680-104534-10</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2518.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 11:40</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 18:11</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>12.6</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	77	U	77	38
56-55-3	Benzo[a]anthracene	46	J	77	38
50-32-8	Benzo[a]pyrene	57	J	77	14
205-99-2	Benzo[b]fluoranthene	97		77	38
191-24-2	Benzo[g,h,i]perylene	77	U	77	38
207-08-9	Benzo[k]fluoranthene	36	J	77	23
218-01-9	Chrysene	71	J	77	38
53-70-3	Dibenz(a,h)anthracene	77	U	77	38
206-44-0	Fluoranthene	80		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	77	U	77	38
90-12-0	1-Methylnaphthalene	77	U	77	35
91-57-6	2-Methylnaphthalene	77	U	77	38
91-20-3	Naphthalene	77	U	77	38
85-01-8	Phenanthrene	56	J	77	27
129-00-0	Pyrene	84		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D
 Lims ID: 680-104534-A-10-A Lab Sample ID: 680-104534-10
 Client ID: HP0085B-CS6"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 18:11:30 ALS Bottle#: 18 Worklist Smp#: 18
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-10-A DL=10
 Misc. Info.: 680-0012210-018
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 16:33:02 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: webbk

Date: 26-Aug-2014 10:00:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.254	4.249	0.005	99	330932	2.00	
* 2 Acenaphthene-d10	164	6.094	6.089	0.005	91	188845	2.00	
* 3 Phenanthrene-d10	188	7.752	7.747	0.005	98	279317	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	99	168903	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	97564	2.00	
7 Naphthalene	128	4.276	4.271	0.005	98	12123	0.0792	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	75	4908	0.0496	7
9 1-Methylnaphthalene	142	5.073	5.073	0.000	32	3324	0.0349	7
15 Phenanthrene	178	7.774	7.774	0.000	97	19884	0.1480	
16 Anthracene	178	7.838	7.833	0.005	54	3017	0.0228	7
17 Fluoranthene	202	9.106	9.106	0.000	98	27363	0.2092	
18 Pyrene	202	9.352	9.352	0.000	97	24164	0.2201	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	96	10230	0.1210	
20 Chrysene	228	10.662	10.662	0.000	99	15296	0.1865	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	97	13595	0.2544	M
22 Benzo[k]fluoranthene	252	11.807	11.807	0.000	97	4960	0.0947	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	97	6507	0.1499	
24 Indeno[1,2,3-cd]pyrene	276	13.861	13.855	0.005	94	4478	0.0760	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Worklist Smp#: 18

Client ID: HP0085B-CS6"

Injection Vol: 2.0 ul

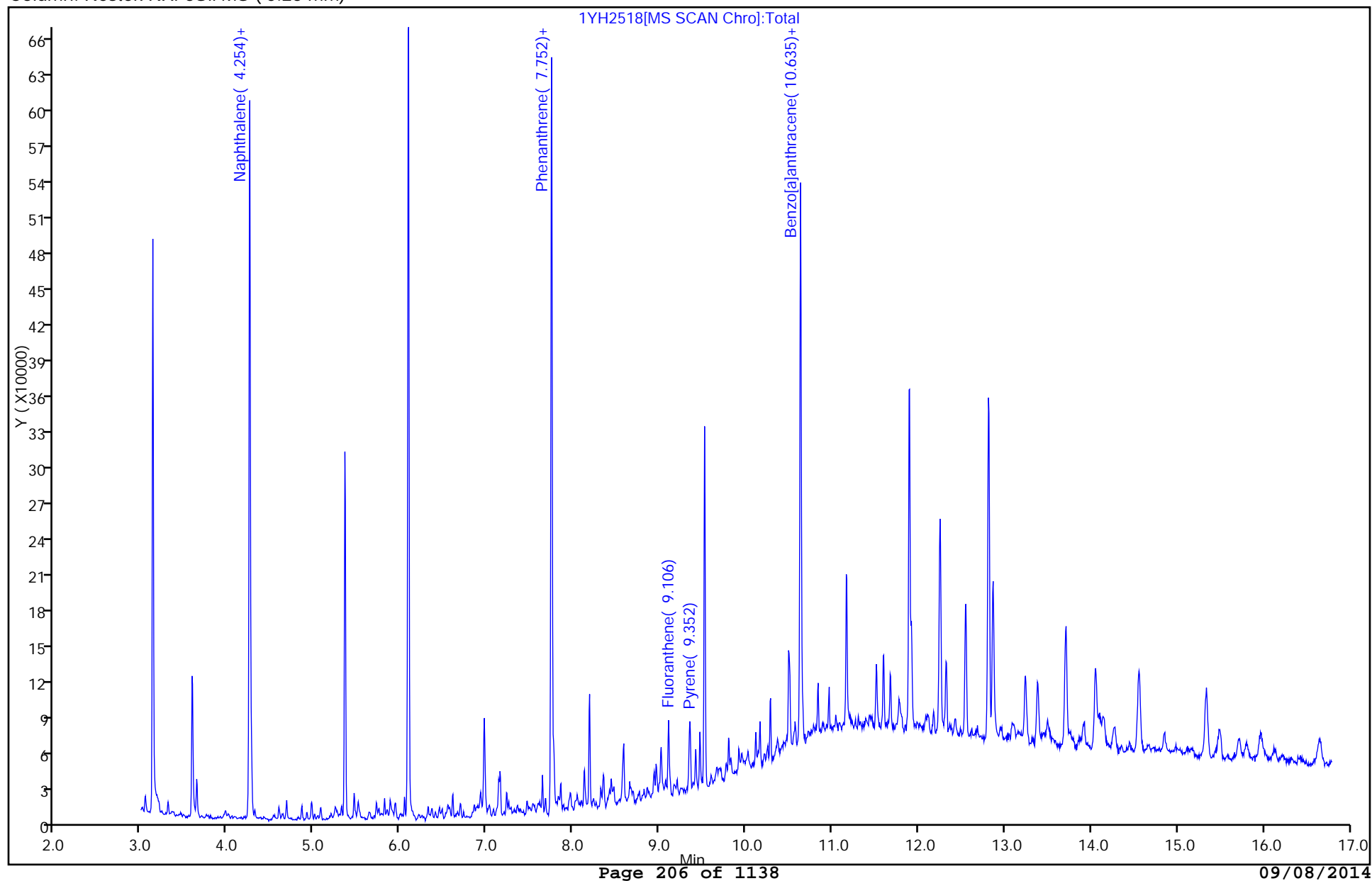
Dil. Factor: 10.0000

ALS Bottle#: 18

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

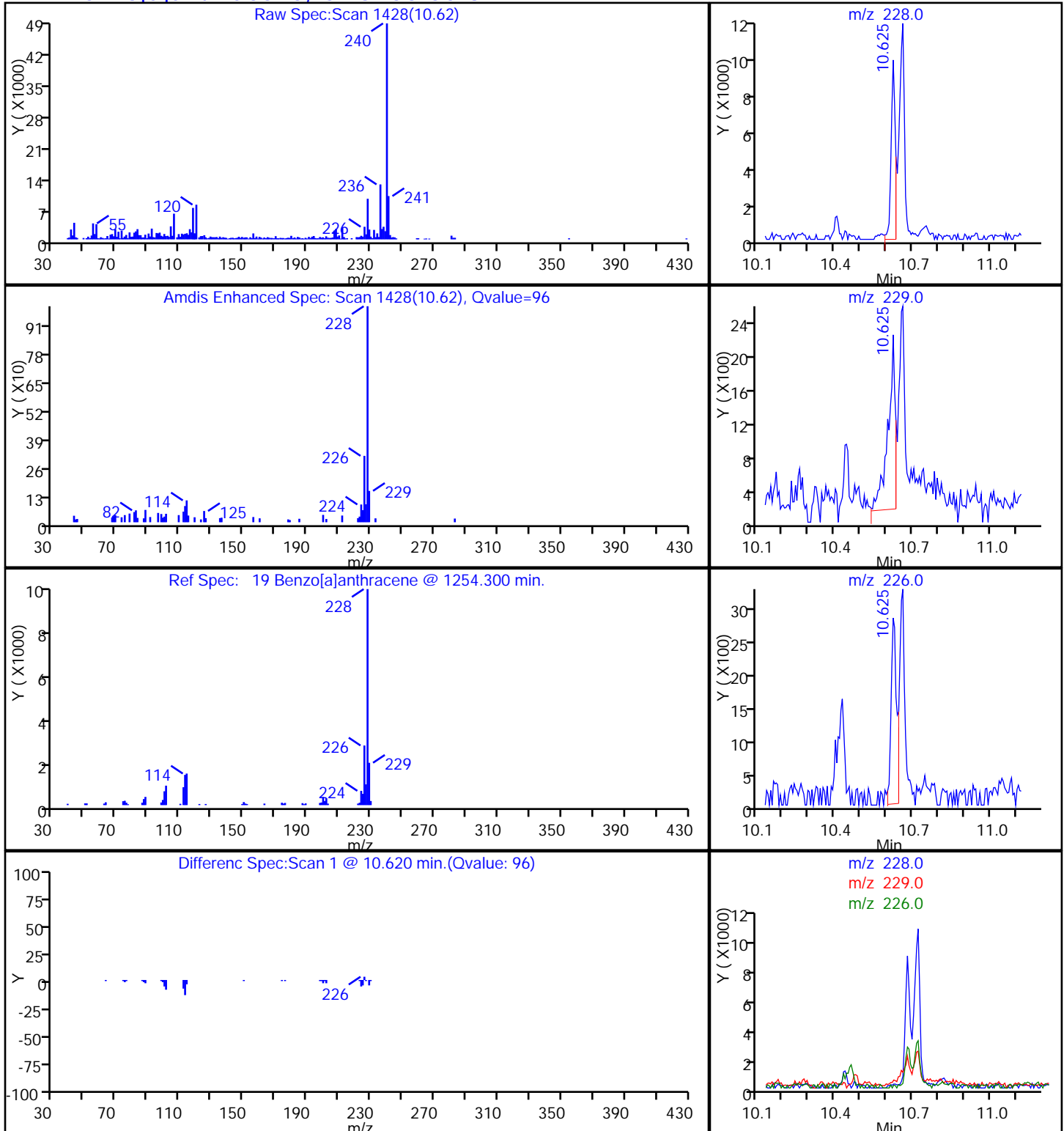
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

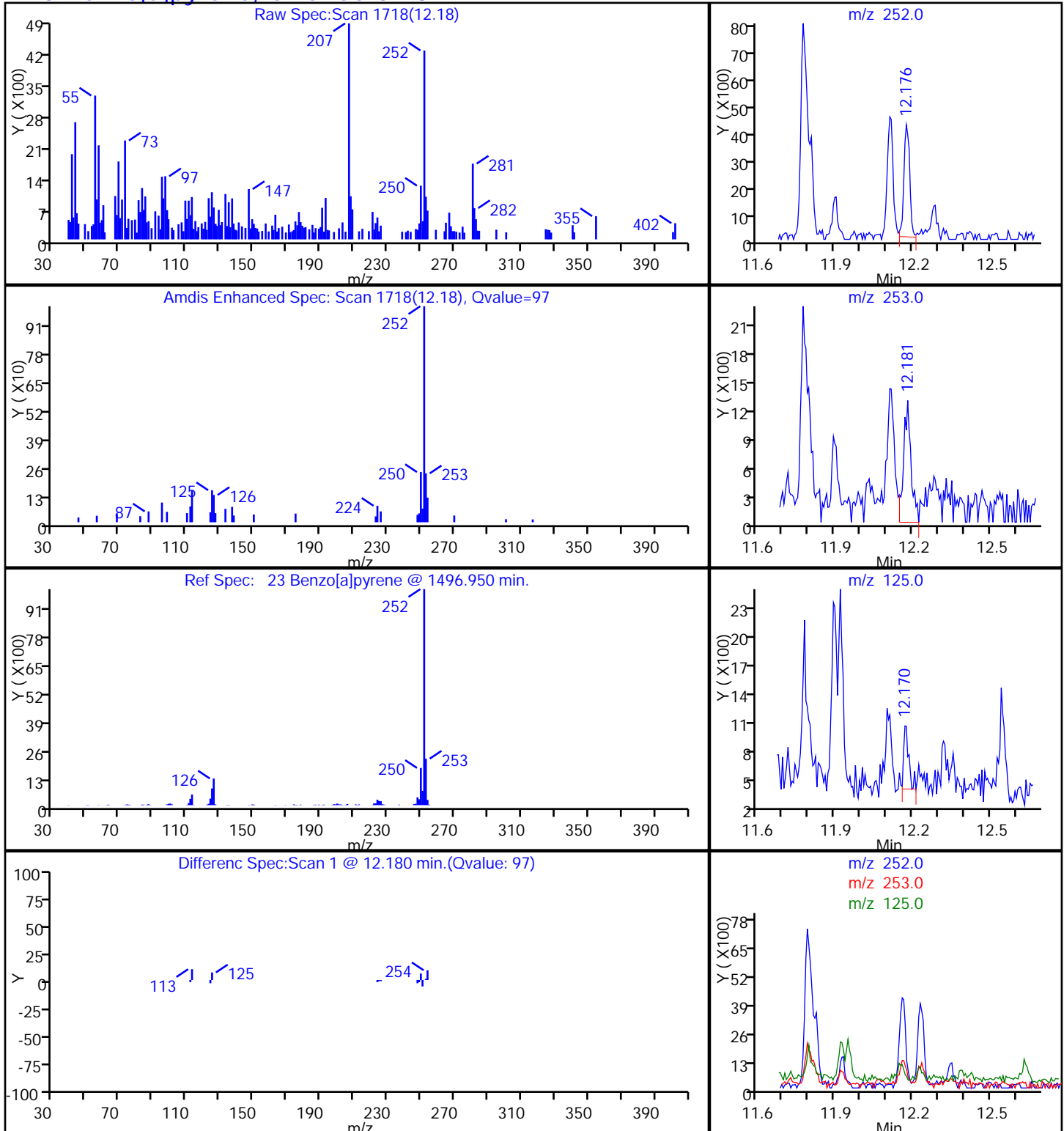
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

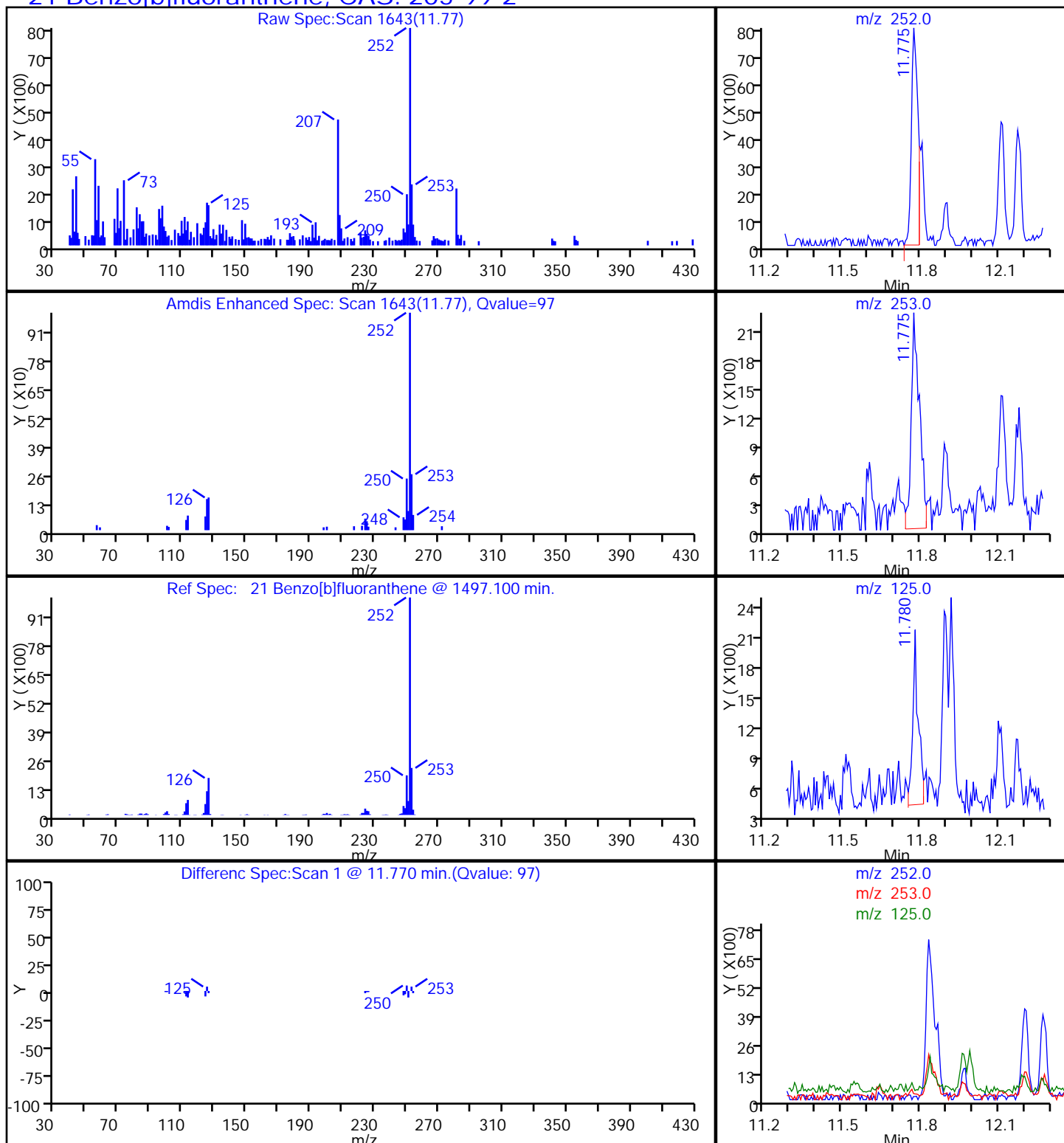
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

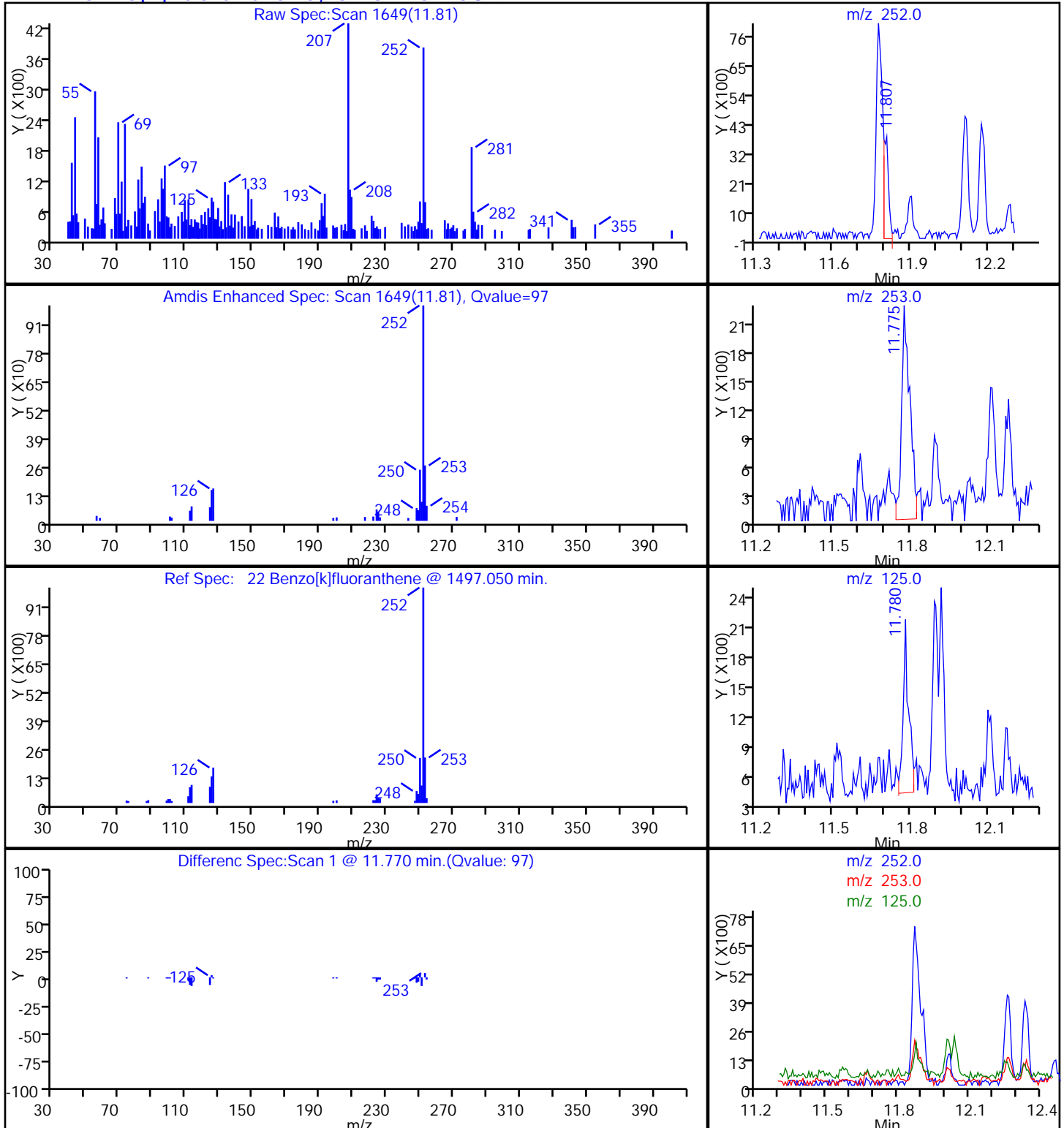
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

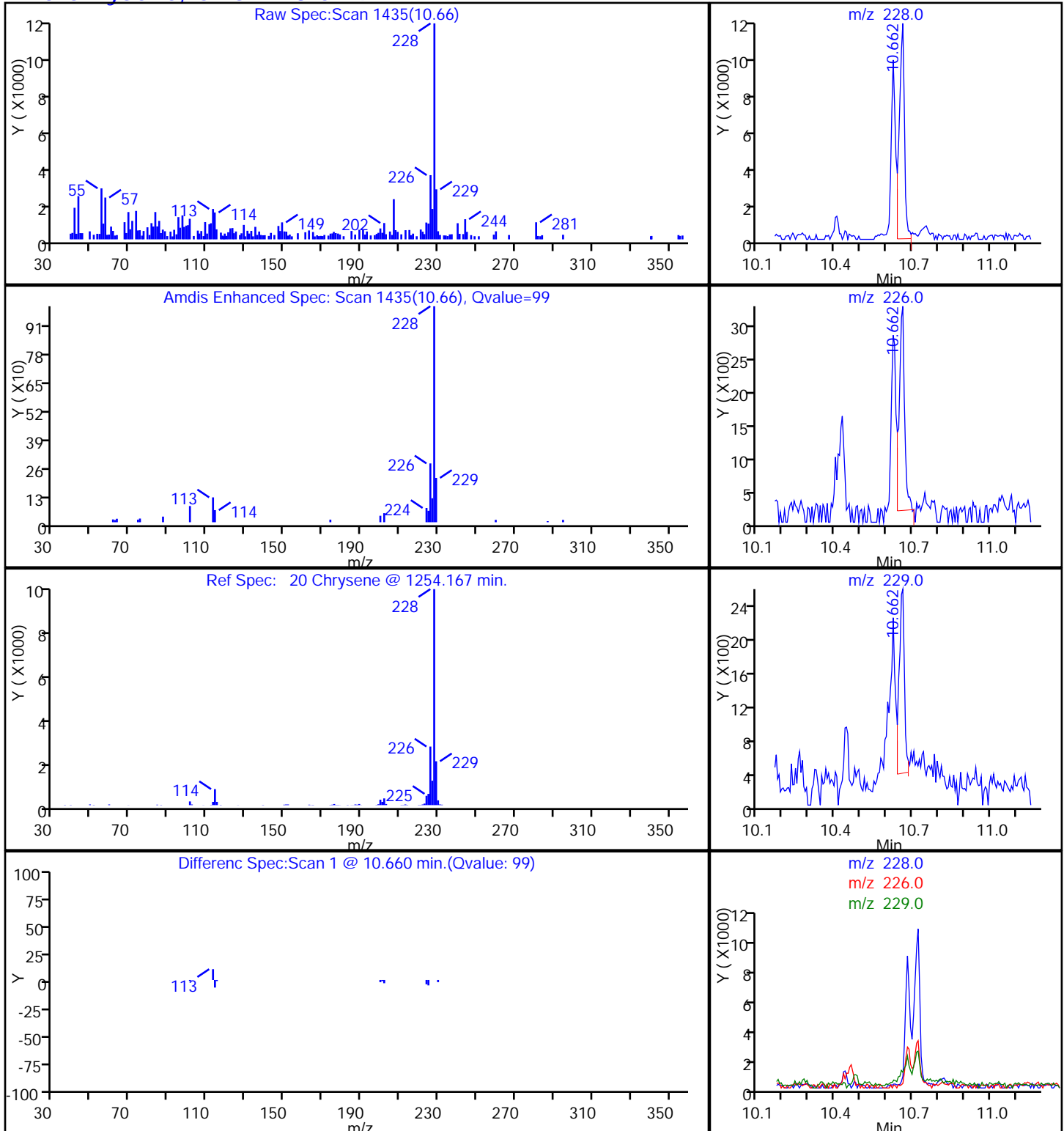
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

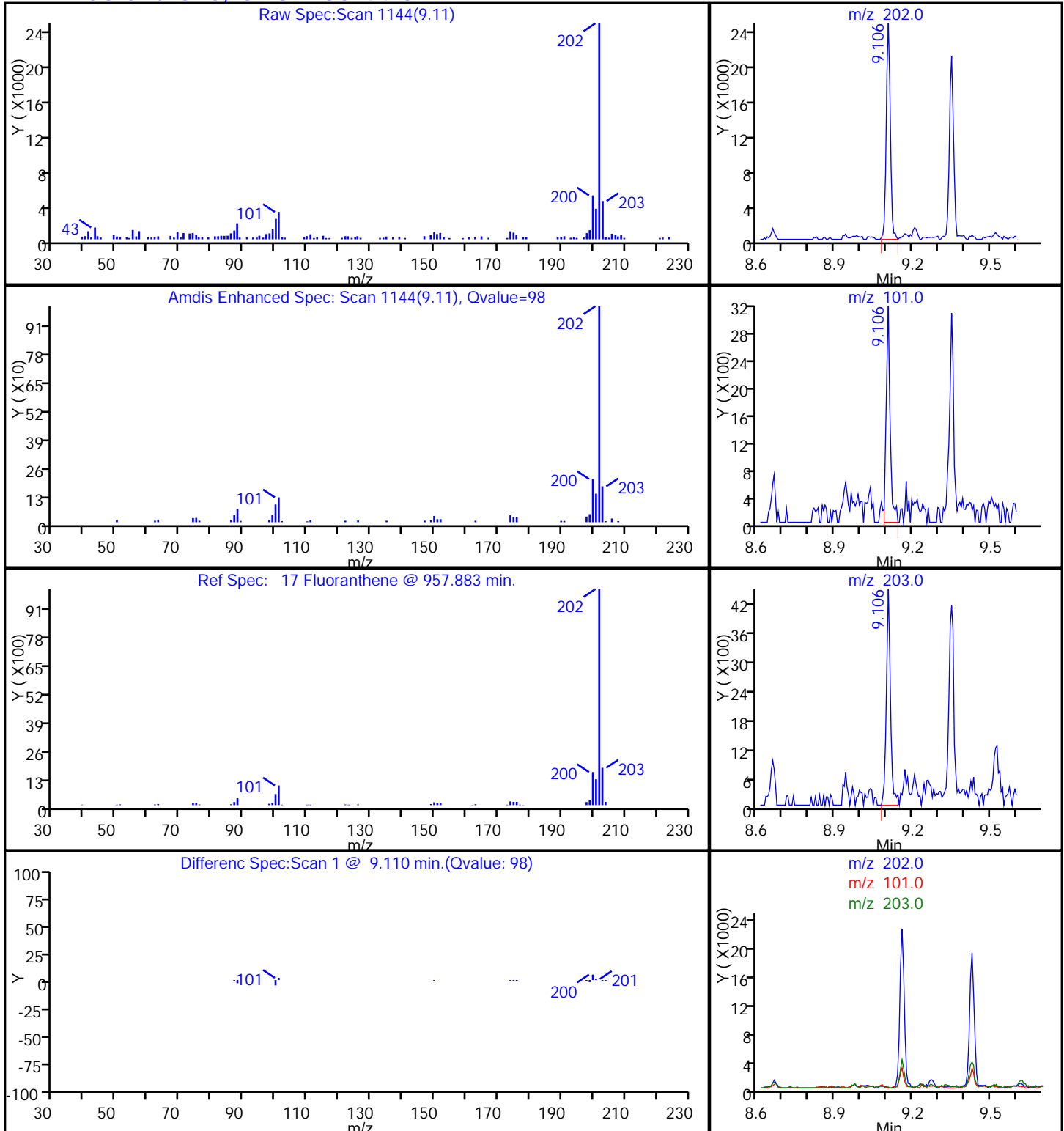
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

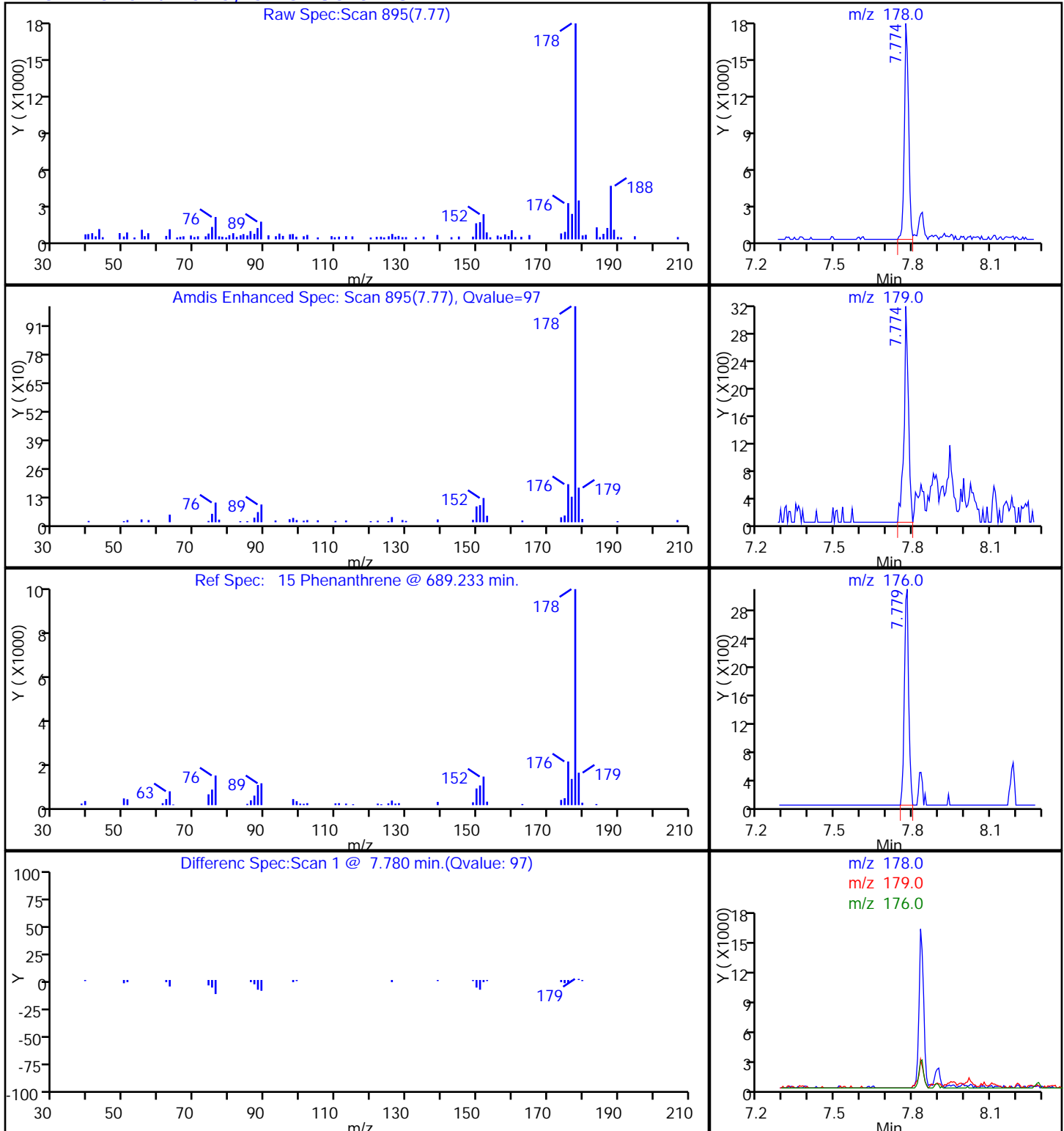
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D

Injection Date: 25-Aug-2014 18:11:30

Instrument ID: CMSY

Lims ID: 680-104534-A-10-A

Lab Sample ID: 680-104534-10

Client ID: HP0085B-CS6"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

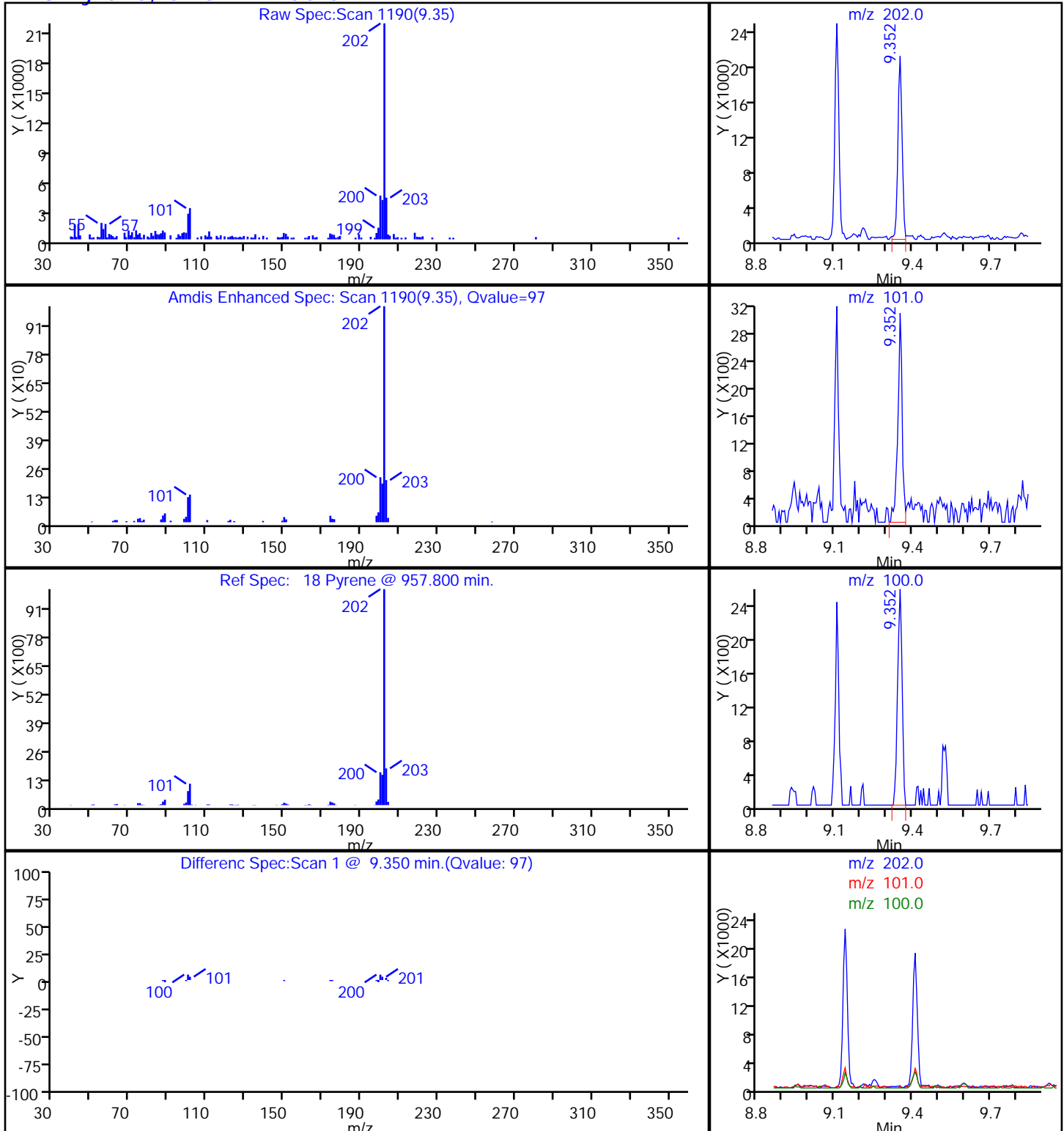
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



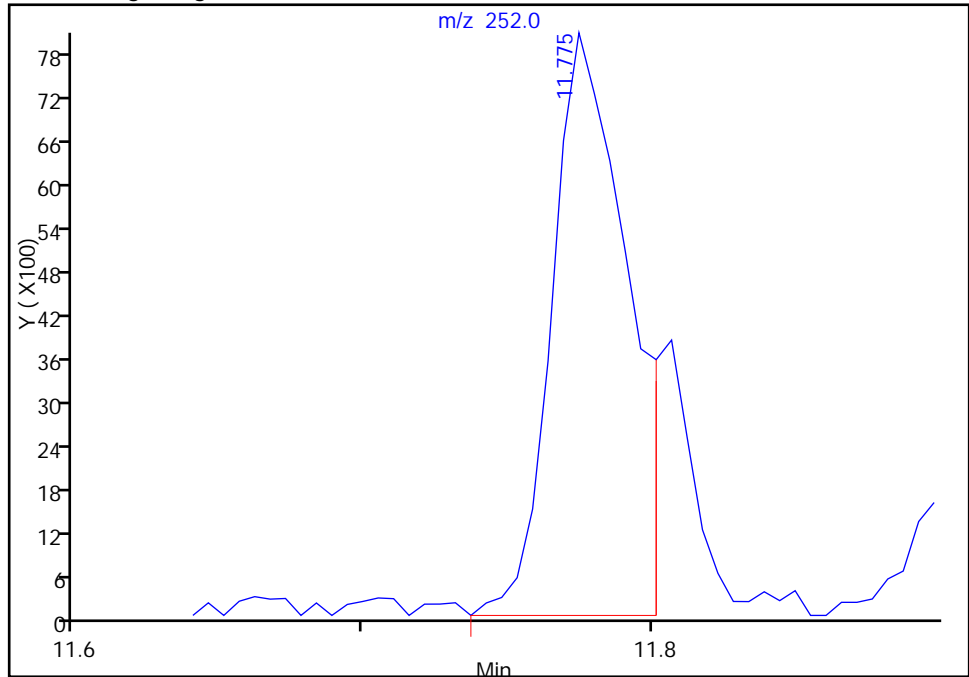
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D		
Injection Date:	25-Aug-2014 18:11:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-10-A	Lab Sample ID:	680-104534-10
Client ID:	HP0085B-CS6"		
Operator ID:	RM	ALS Bottle#:	18
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	18

21 Benzo[b]fluoranthene, CAS: 205-99-2

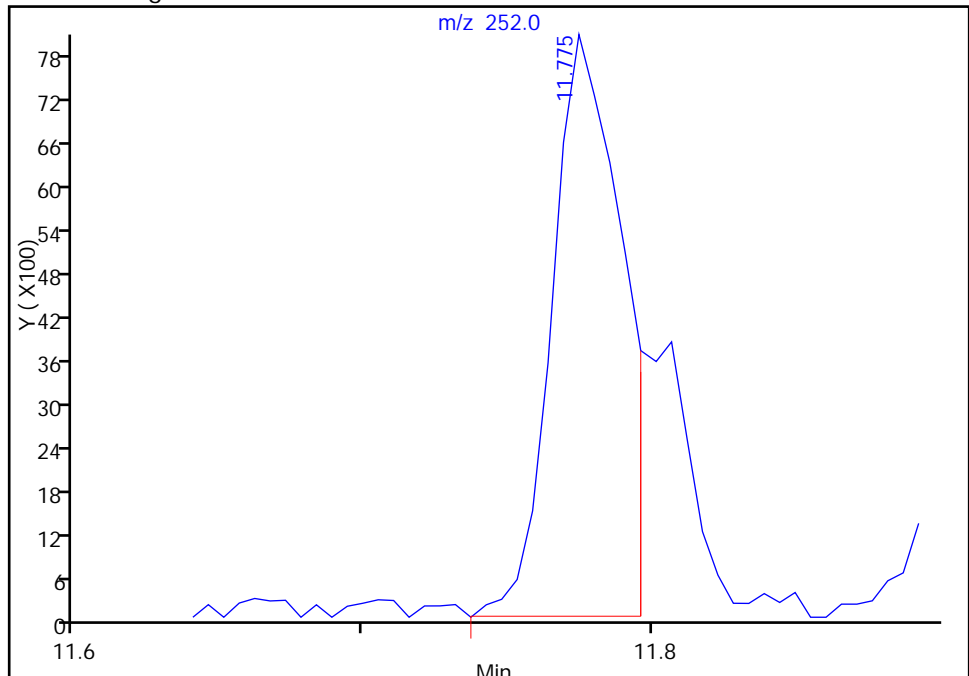
RT: 11.77
Response: 14778
Amount: 0.276589

Processing Integration Results



RT: 11.77
Response: 13595
Amount: 0.254447

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 10:00:43
Audit Action: Manually Integrated
Audit Reason: Split Peak

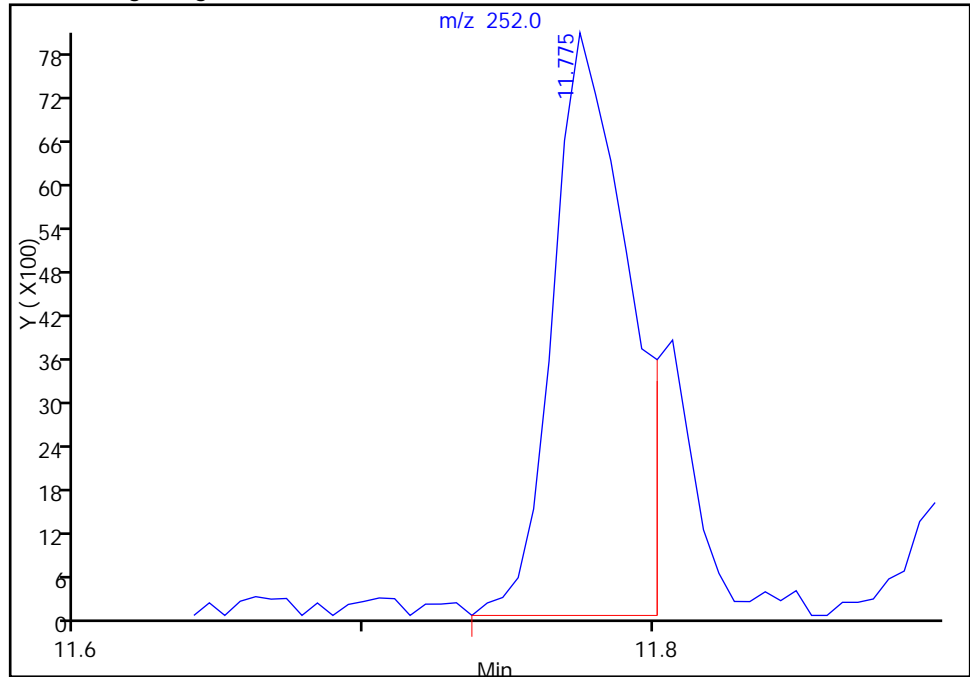
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2518.D		
Injection Date:	25-Aug-2014 18:11:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-10-A	Lab Sample ID:	680-104534-10
Client ID:	HP0085B-CS6"		
Operator ID:	RM	ALS Bottle#:	18
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	18

22 Benzo[k]fluoranthene, CAS: 207-08-9

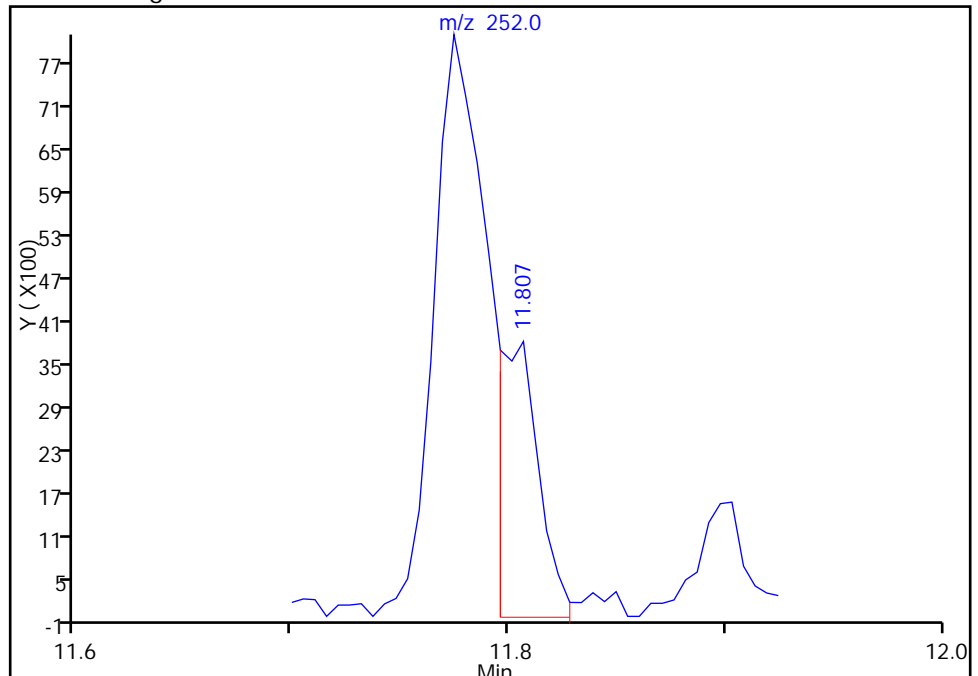
RT: 11.77
Response: 14778
Amount: 0.282129

Processing Integration Results



RT: 11.81
Response: 4960
Amount: 0.094692

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 10:00:43
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS12"</u>	Lab Sample ID: <u>680-104534-11</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2519.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 11:45</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 18:34</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>9.3</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.4	U	7.4	3.6
208-96-8	Acenaphthylene	7.4	U	7.4	3.6
120-12-7	Anthracene	7.4	U	7.4	3.6
56-55-3	Benzo[a]anthracene	8.2		7.4	3.6
50-32-8	Benzo[a]pyrene	9.2		7.4	1.3
205-99-2	Benzo[b]fluoranthene	16		7.4	3.6
191-24-2	Benzo[g,h,i]perylene	8.4		7.4	3.6
207-08-9	Benzo[k]fluoranthene	6.2	J	7.4	2.2
218-01-9	Chrysene	11		7.4	3.6
53-70-3	Dibenz(a,h)anthracene	7.4	U	7.4	3.6
206-44-0	Fluoranthene	13		7.4	3.6
86-73-7	Fluorene	7.4	U	7.4	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	5.5	J	7.4	3.6
90-12-0	1-Methylnaphthalene	7.4	U	7.4	3.4
91-57-6	2-Methylnaphthalene	7.4	U	7.4	3.6
91-20-3	Naphthalene	5.2	J	7.4	3.6
85-01-8	Phenanthrene	9.1		7.4	2.6
129-00-0	Pyrene	13		7.4	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	99		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D
 Lims ID: 680-104534-A-11-A Lab Sample ID: 680-104534-11
 Client ID: HP0085B-CS12"
 Sample Type: Client
 Inject. Date: 25-Aug-2014 18:34:30 ALS Bottle#: 19 Worklist Smp#: 19
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-11-A
 Misc. Info.: 680-0012210-019
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 16:33:02 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: moorer

Date: 26-Aug-2014 09:56:06

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.238	4.249	-0.011	100	321482	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	91	179956	2.00	
* 3 Phenanthrene-d10	188	7.752	7.747	0.005	97	268313	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	99	161489	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	95451	2.00	
\$ 6 o-Terphenyl	230	8.191	8.191	0.000	90	116196	1.97	
7 Naphthalene	128	4.260	4.271	-0.011	94	21181	0.1425	
8 2-Methylnaphthalene	142	4.966	4.971	-0.005	76	7559	0.0786	
9 1-Methylnaphthalene	142	5.067	5.073	-0.006	67	5842	0.0632	
15 Phenanthrene	178	7.774	7.774	0.000	98	31867	0.2469	
16 Anthracene	178	7.833	7.833	0.000	63	3343	0.0263	7
17 Fluoranthene	202	9.106	9.106	0.000	98	43494	0.3461	
18 Pyrene	202	9.352	9.352	0.000	96	36835	0.3510	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	52	17999	0.2226	
20 Chrysene	228	10.662	10.662	0.000	79	24531	0.3128	
21 Benzo[b]fluoranthene	252	11.780	11.775	0.005	95	22915	0.4384	M
22 Benzo[k]fluoranthene	252	11.796	11.807	-0.011	43	8702	0.1698	M
23 Benzo[a]pyrene	252	12.176	12.176	0.000	93	10642	0.2505	
24 Indeno[1,2,3-cd]pyrene	276	13.861	13.855	0.006	85	8492	0.1508	
26 Benzo[g,h,i]perylene	276	14.353	14.347	0.006	75	8292	0.2289	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Worklist Smp#: 19

Client ID: HP0085B-CS12"

Injection Vol: 2.0 ul

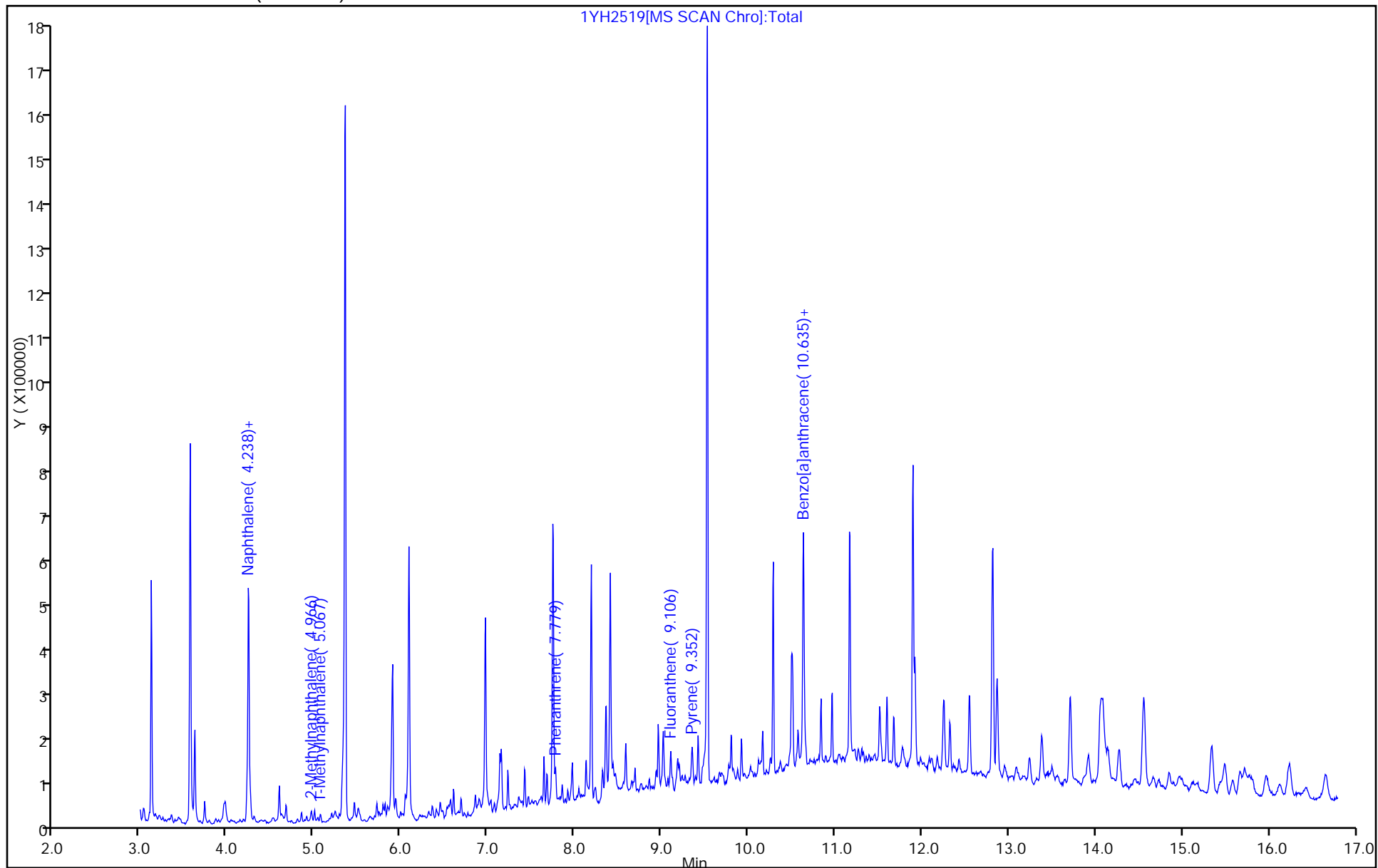
Dil. Factor: 1.0000

ALS Bottle#: 19

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

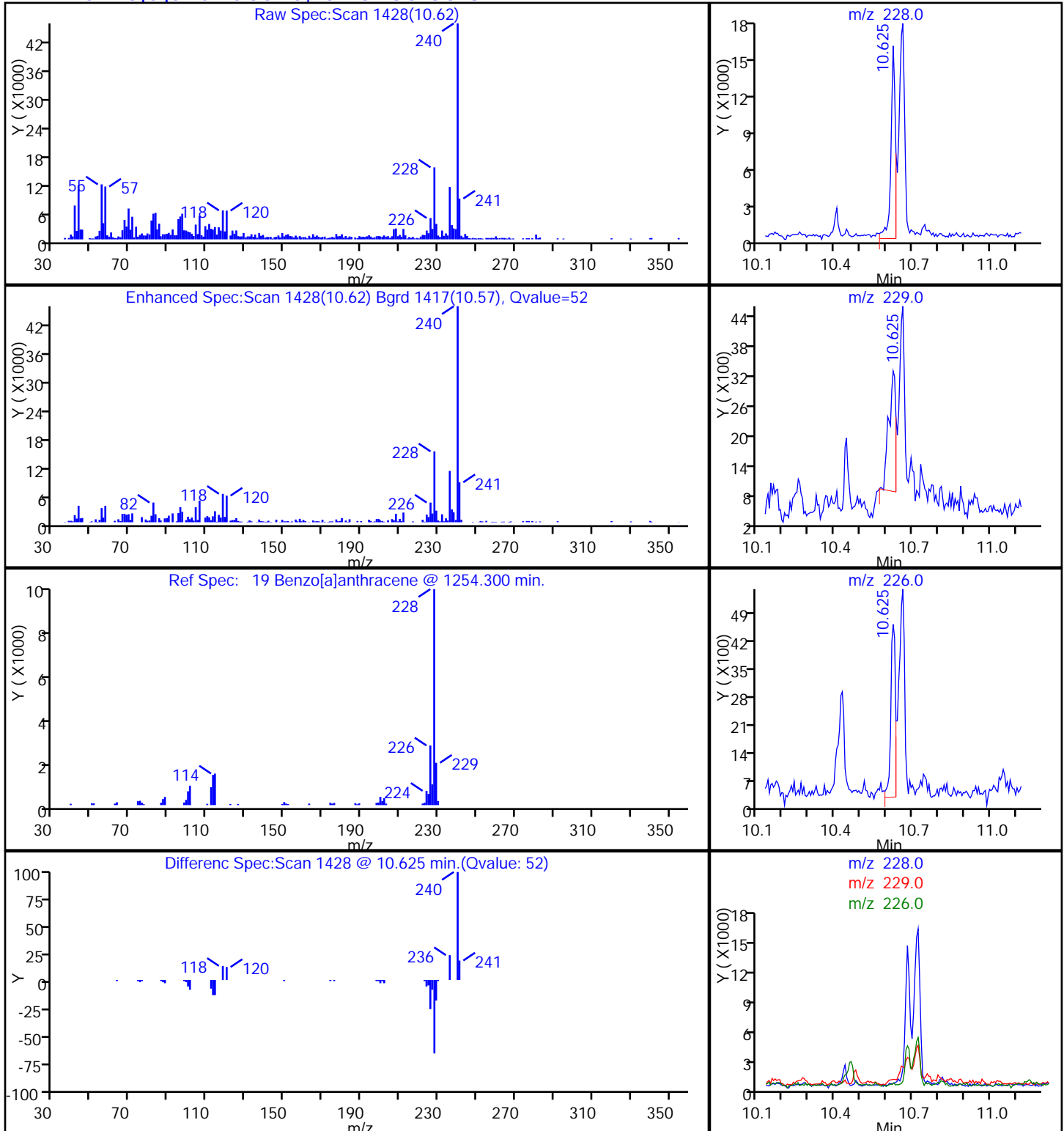
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

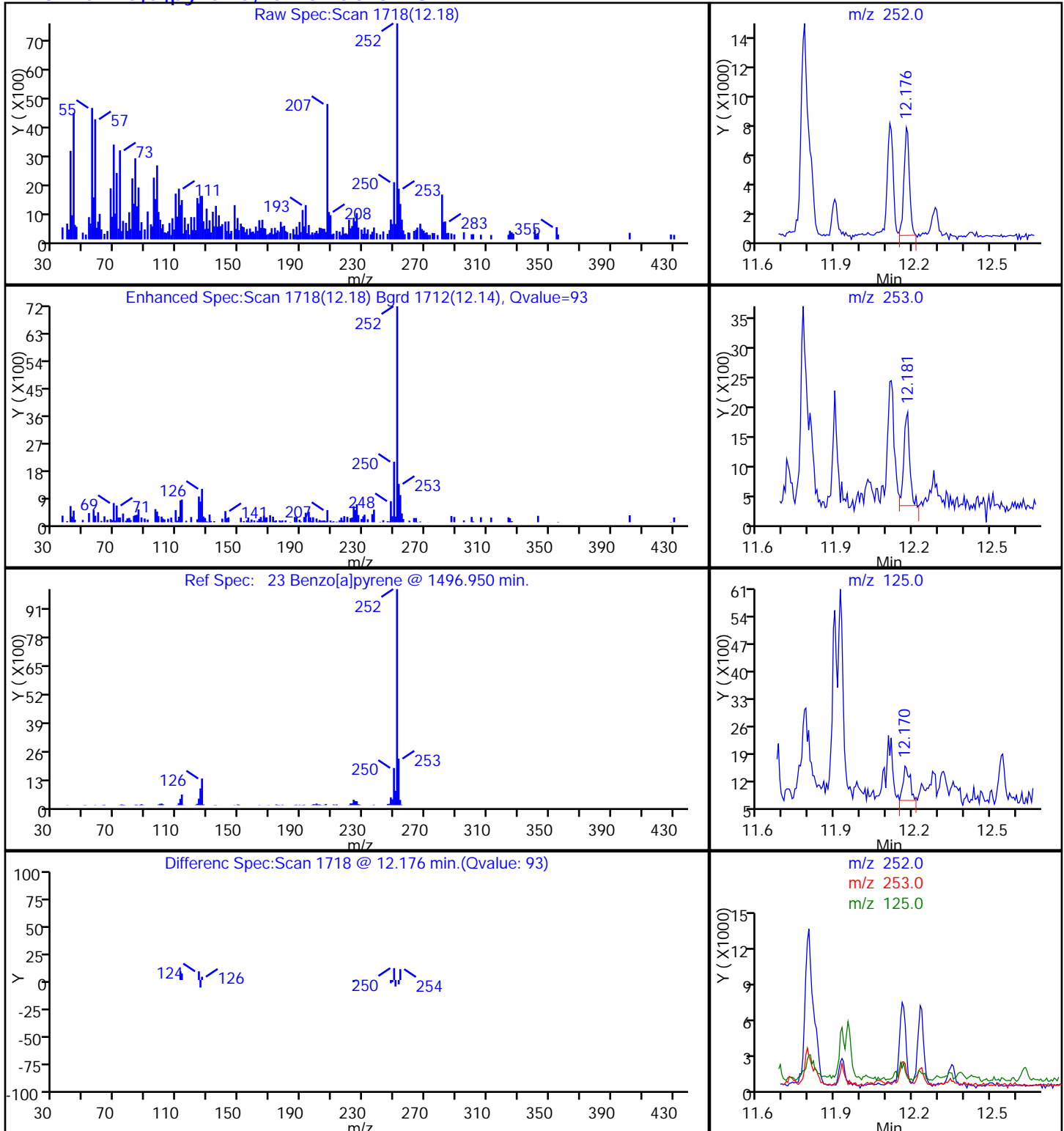
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

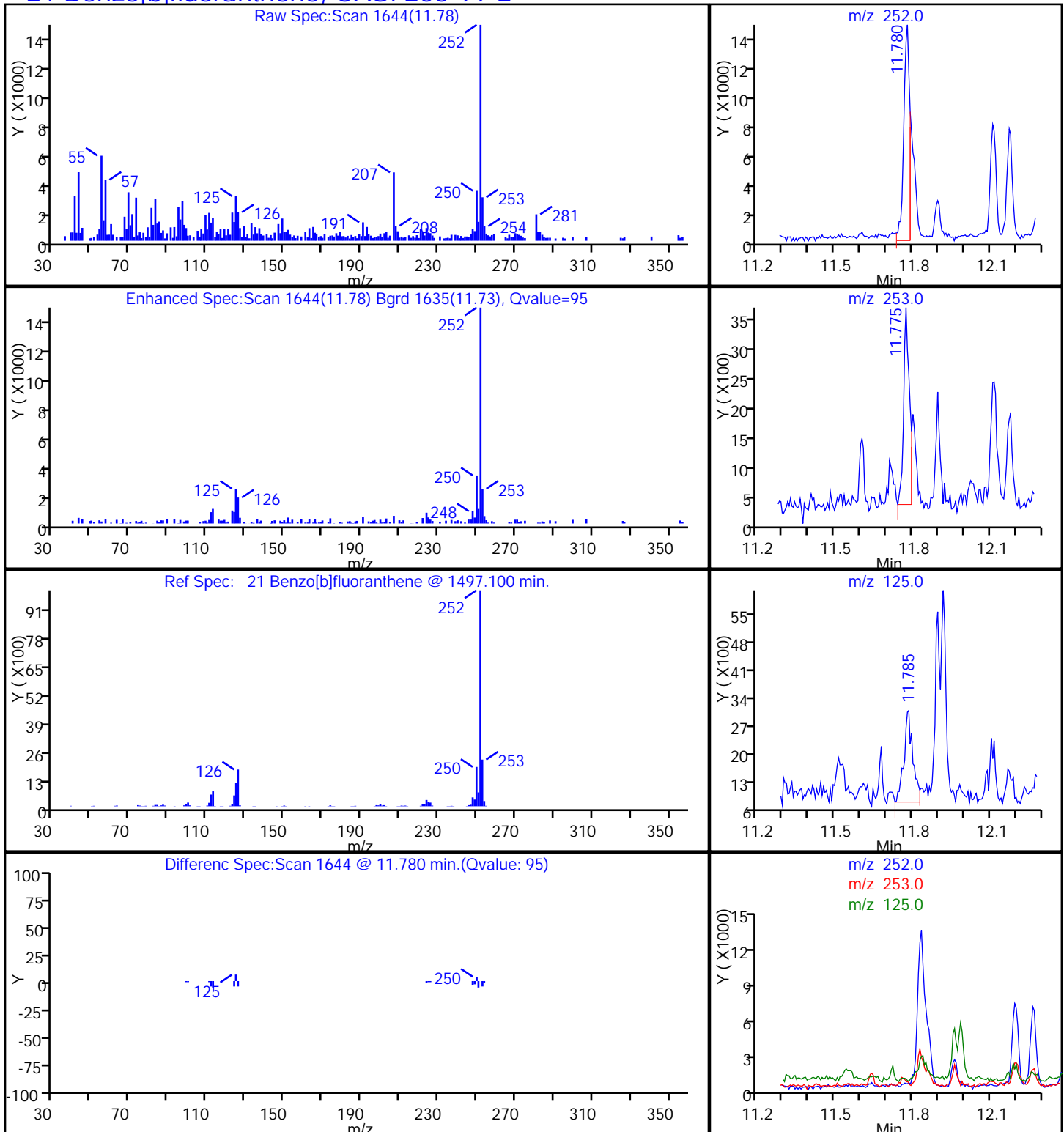
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

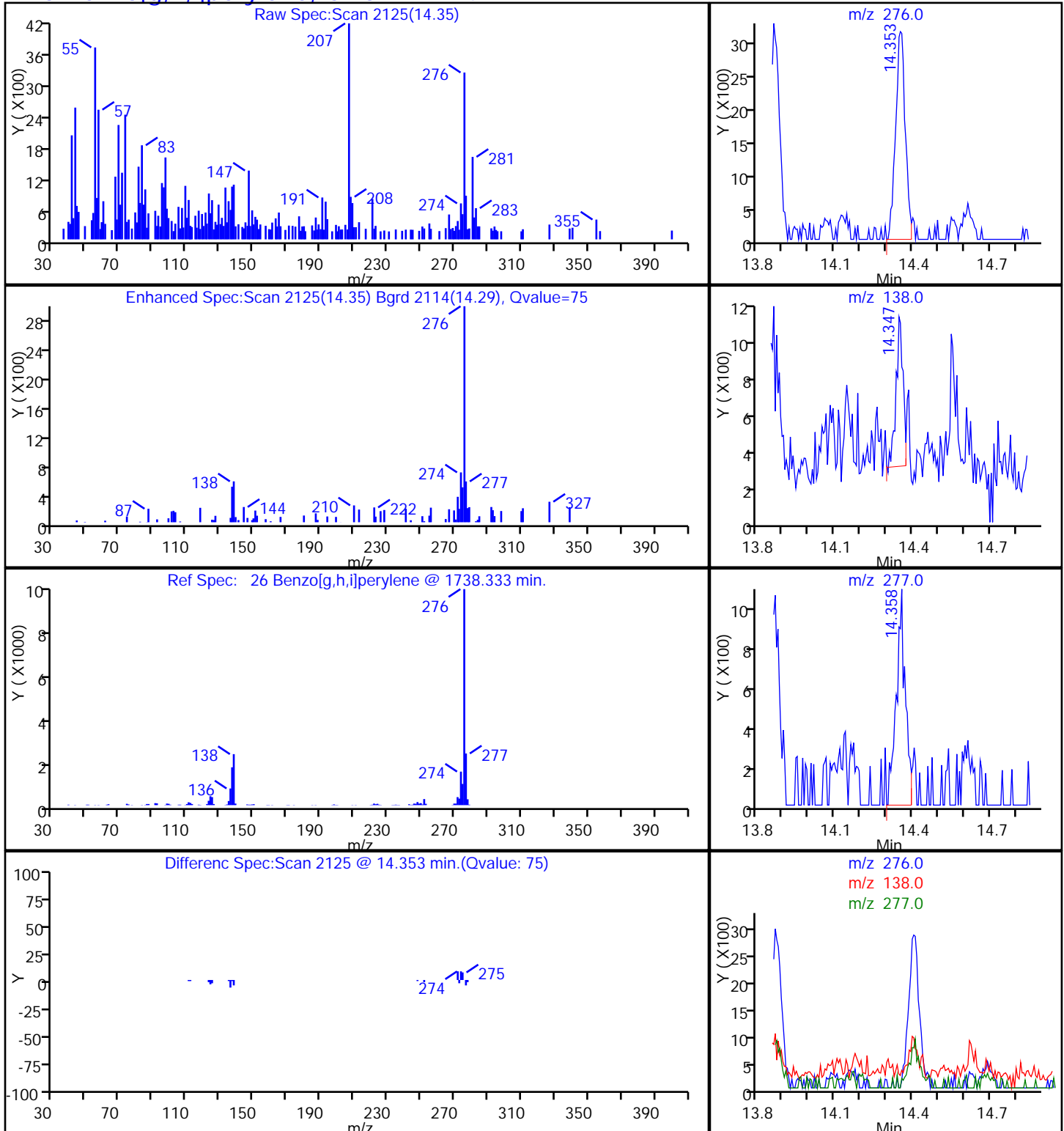
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

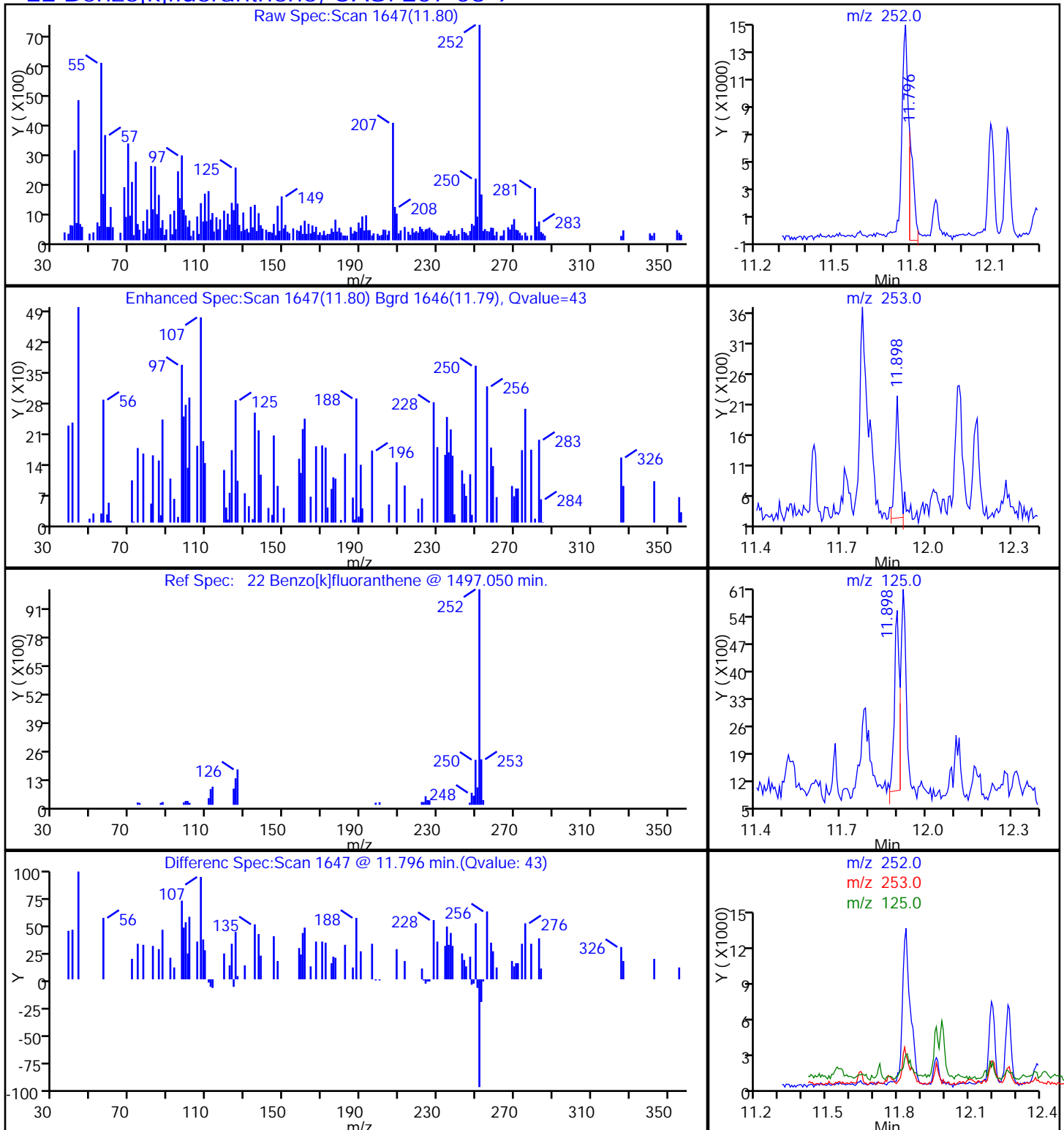
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

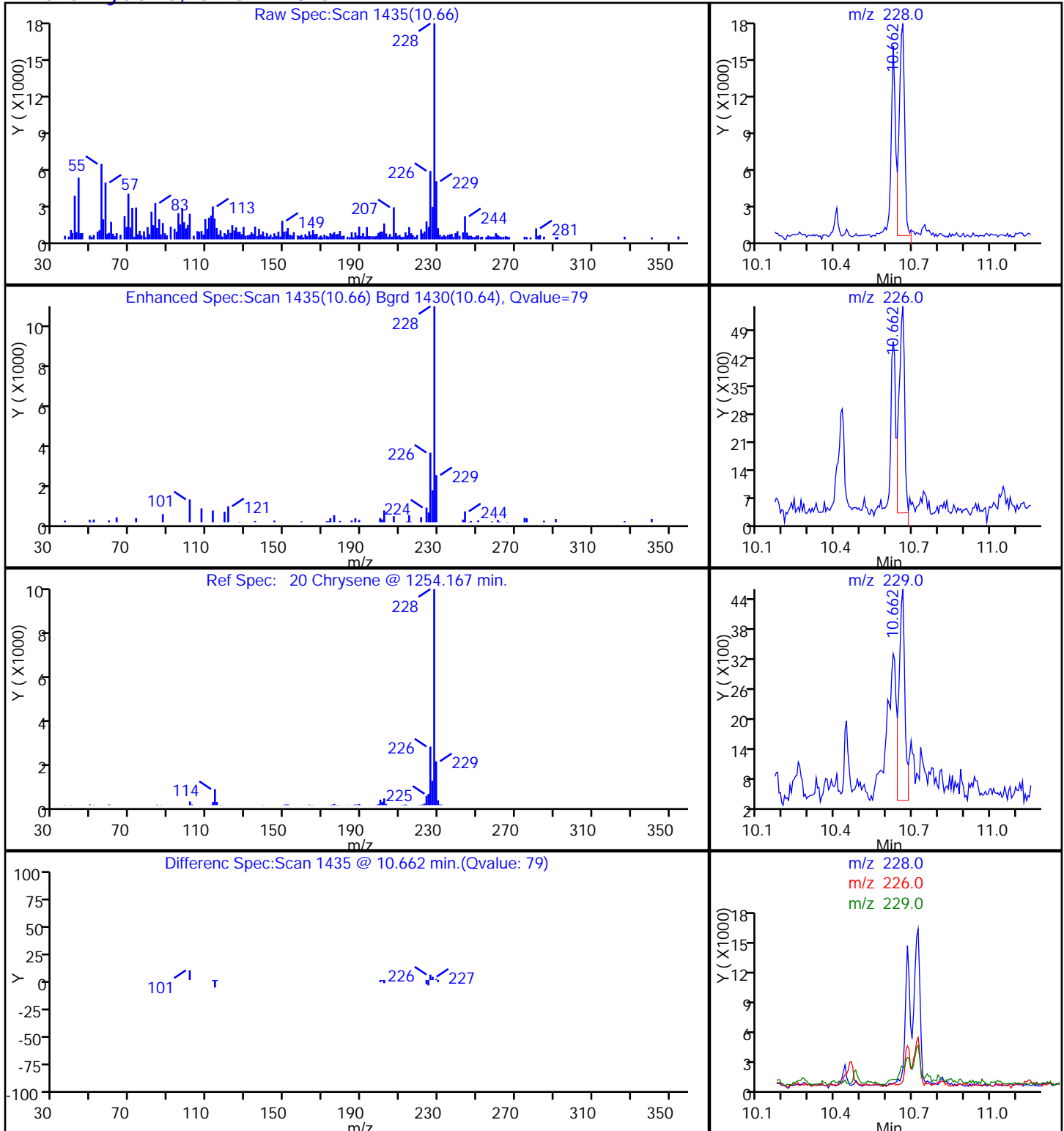
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

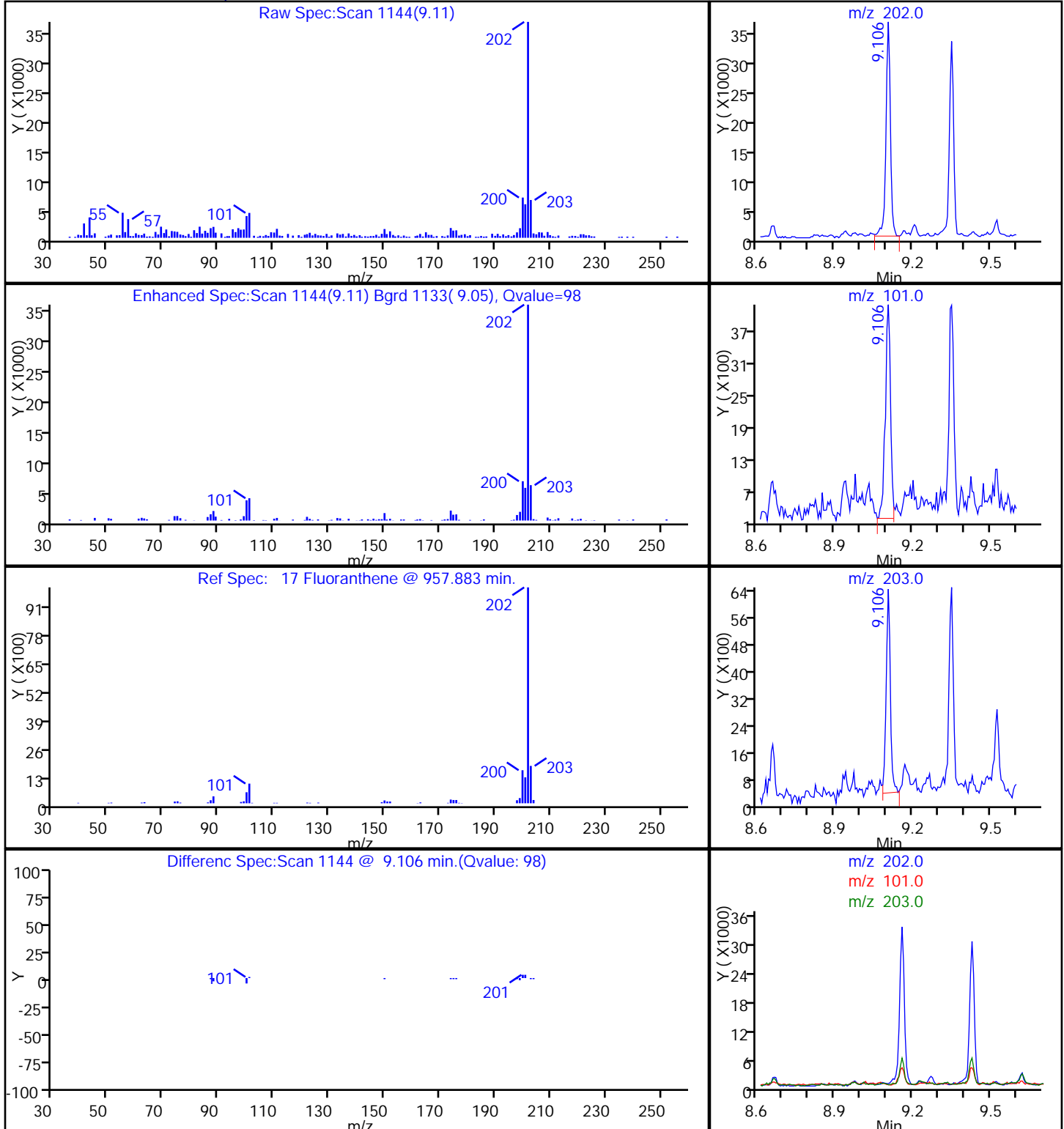
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

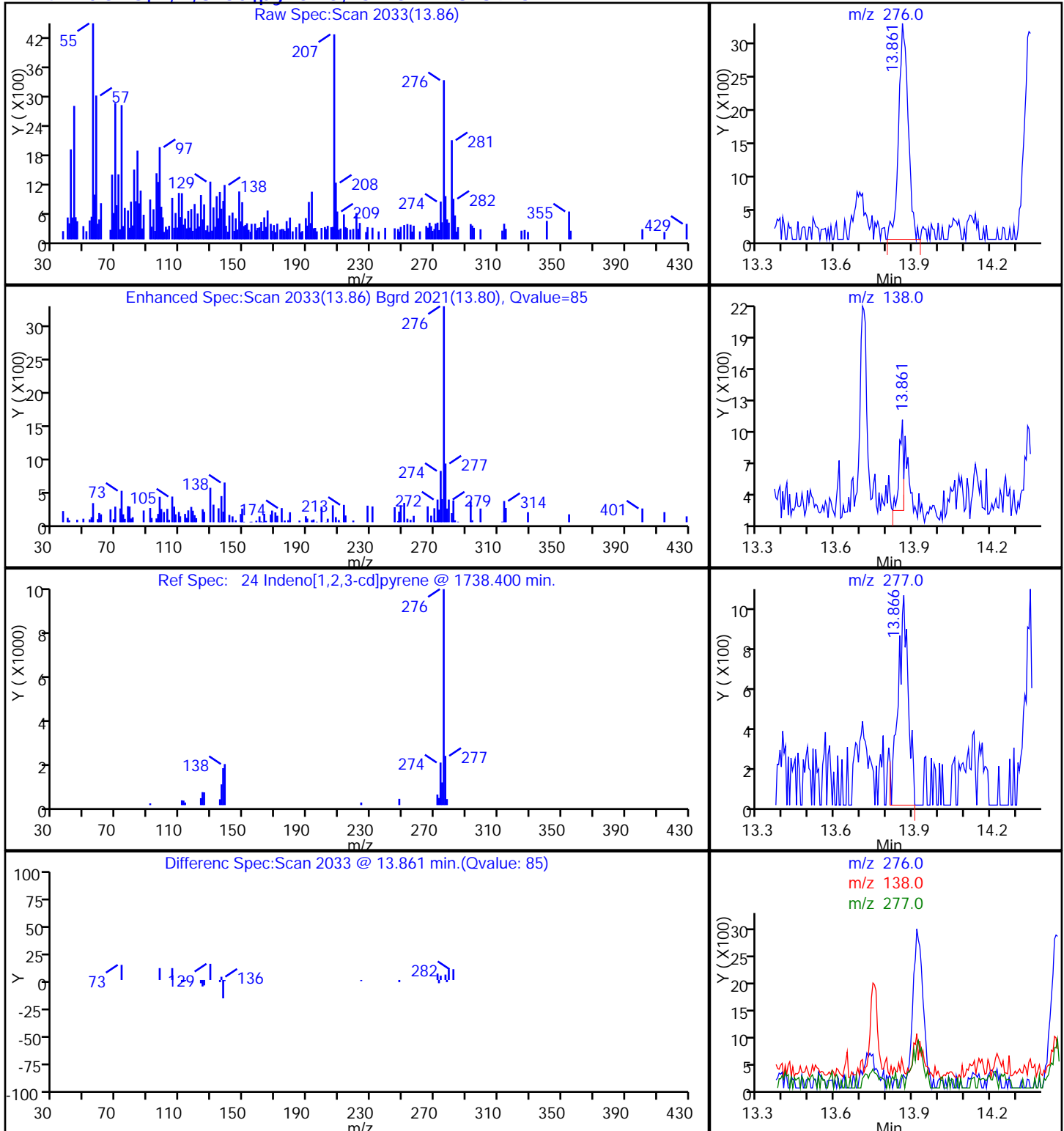
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

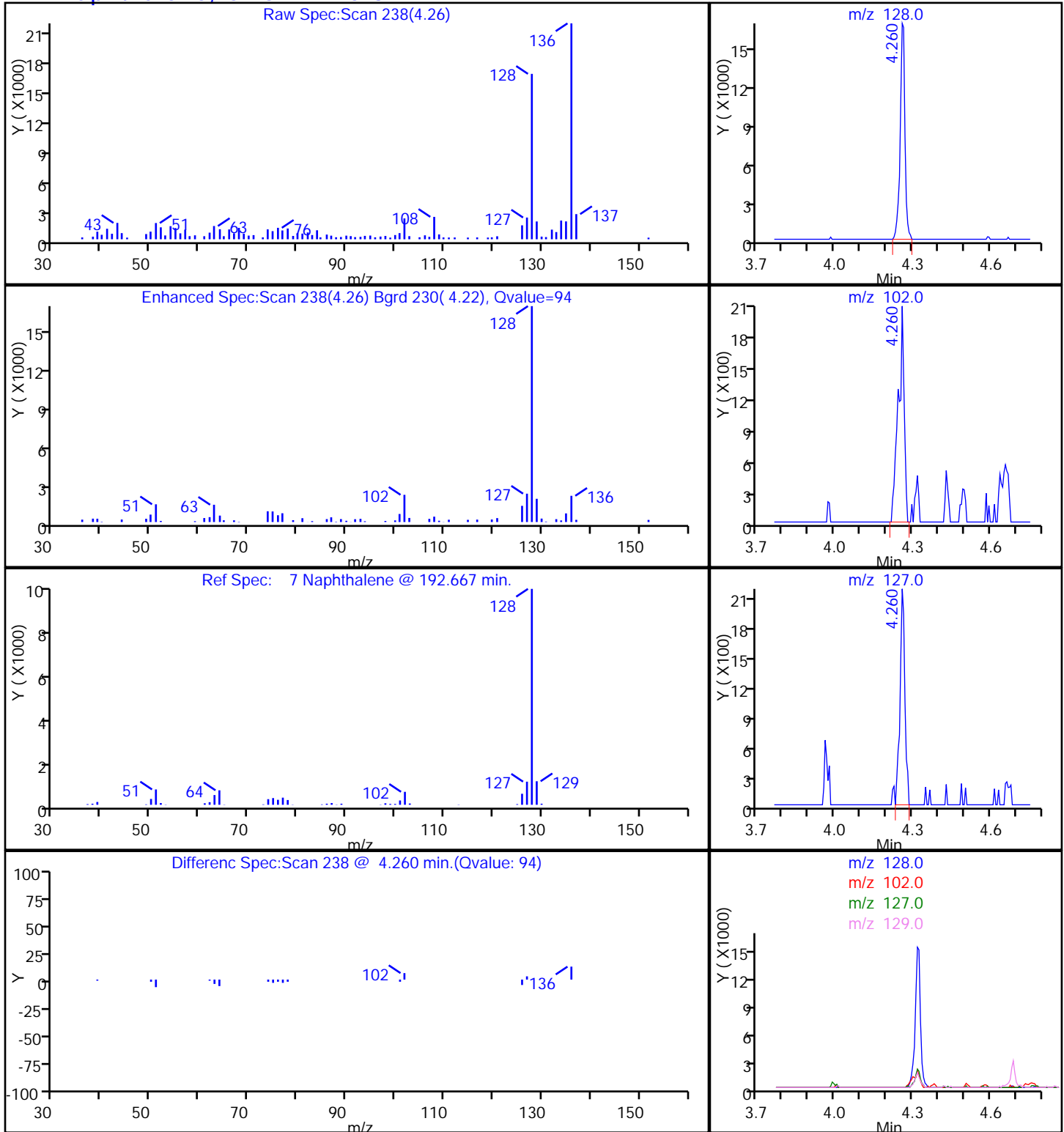
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

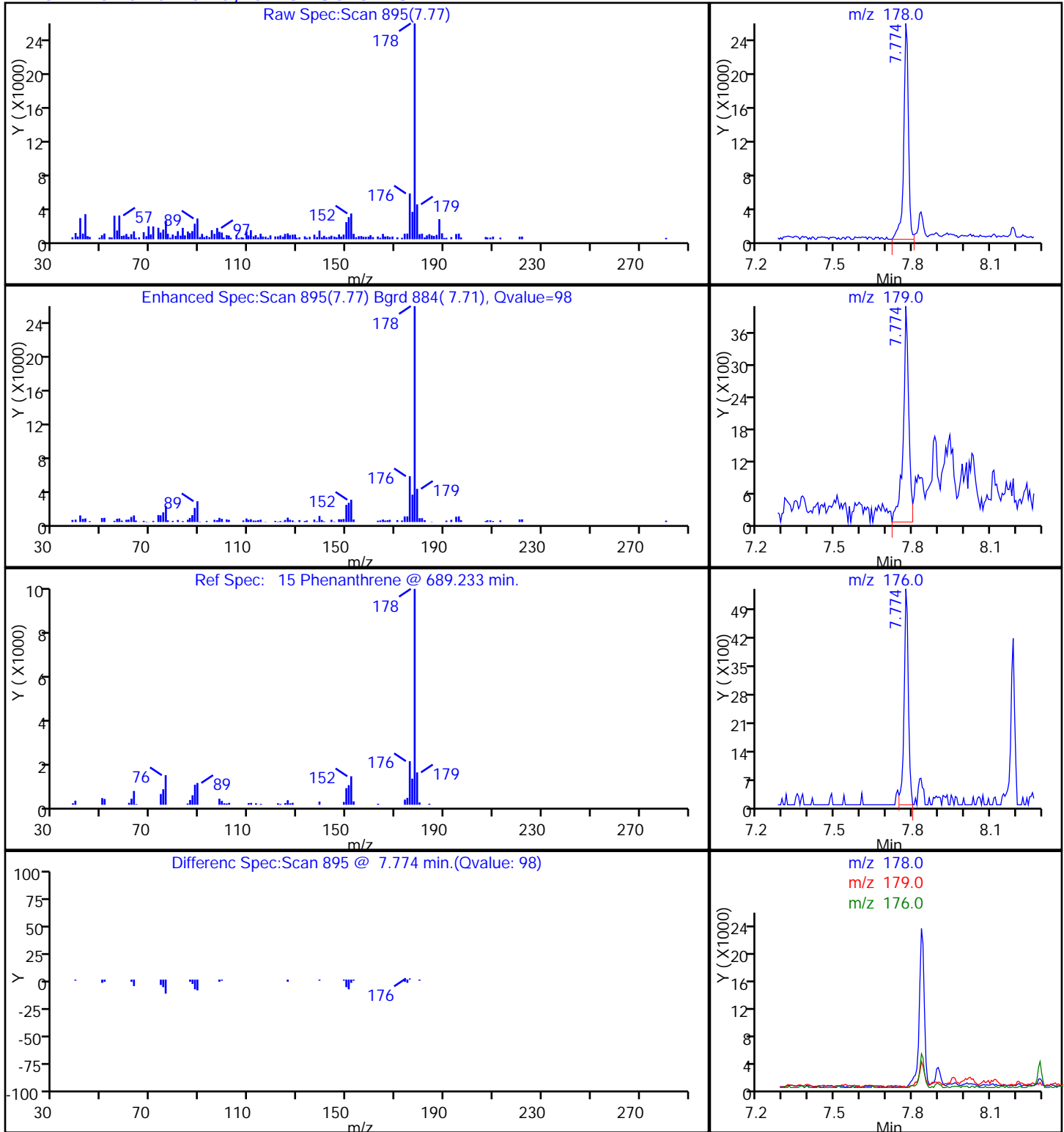
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D

Injection Date: 25-Aug-2014 18:34:30

Instrument ID: CMSY

Lims ID: 680-104534-A-11-A

Lab Sample ID: 680-104534-11

Client ID: HP0085B-CS12"

Operator ID: RM

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

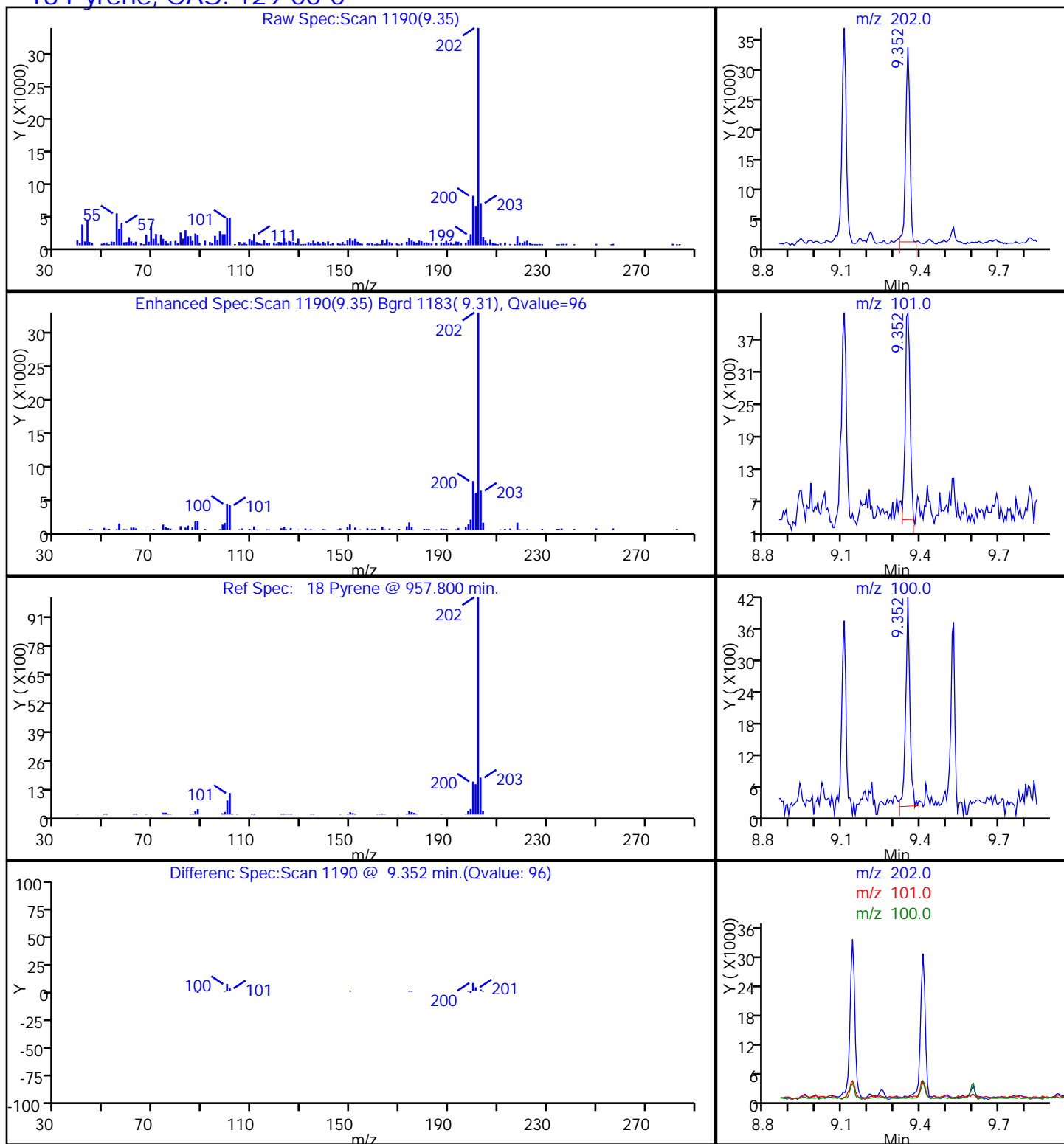
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



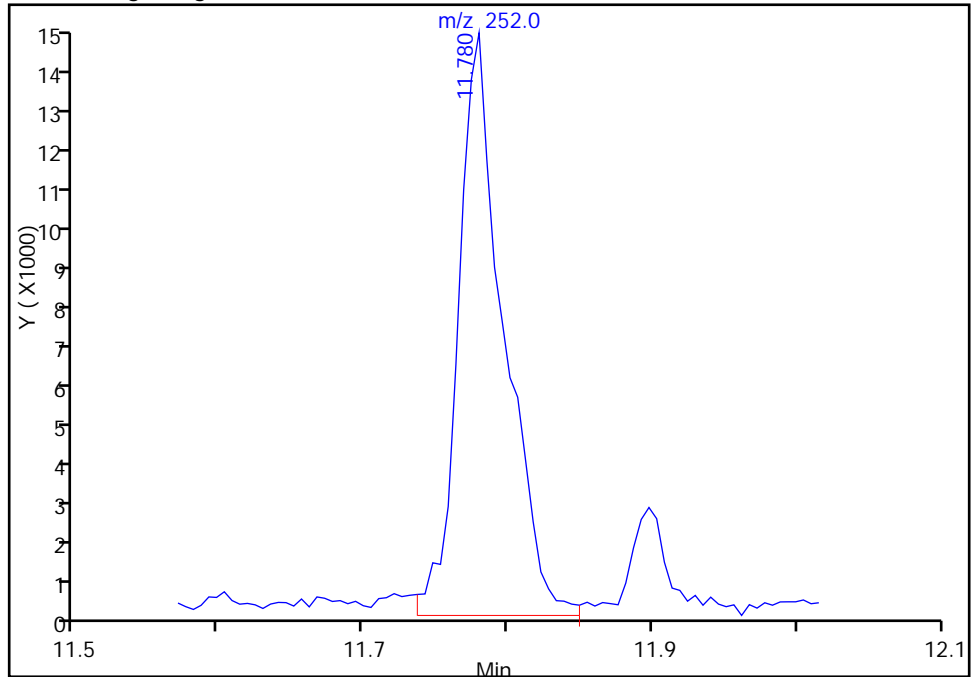
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D		
Injection Date:	25-Aug-2014 18:34:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-11-A	Lab Sample ID:	680-104534-11
Client ID:	HP0085B-CS12"		
Operator ID:	RM	ALS Bottle#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	19

21 Benzo[b]fluoranthene, CAS: 205-99-2

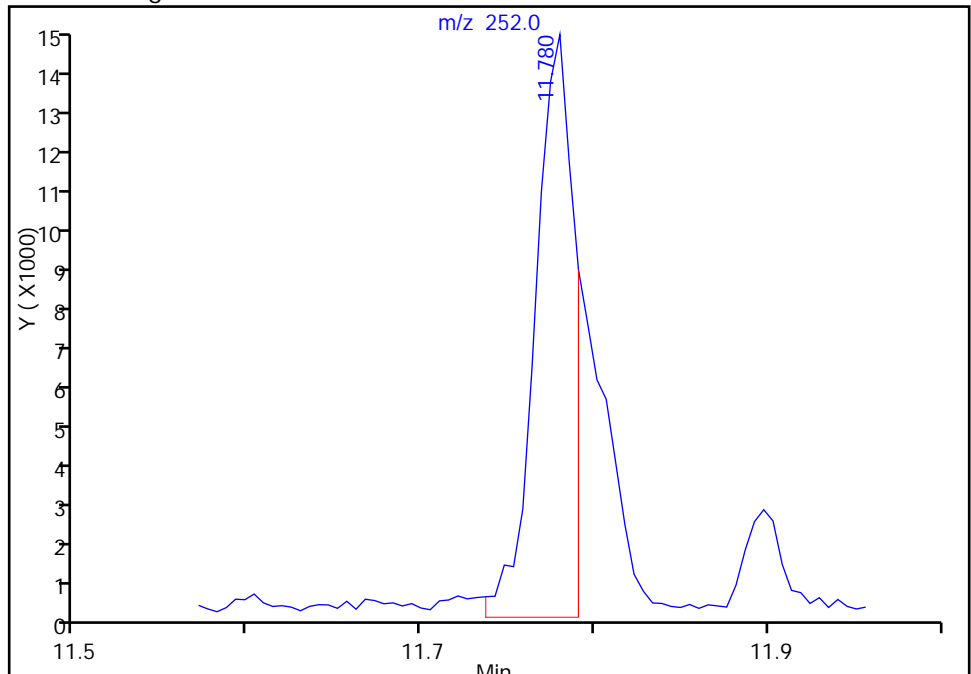
RT: 11.78
Response: 31966
Amount: 0.611528

Processing Integration Results



RT: 11.78
Response: 22915
Amount: 0.438377

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 10:04:56
Audit Action: Manually Integrated
Audit Reason: Split Peak

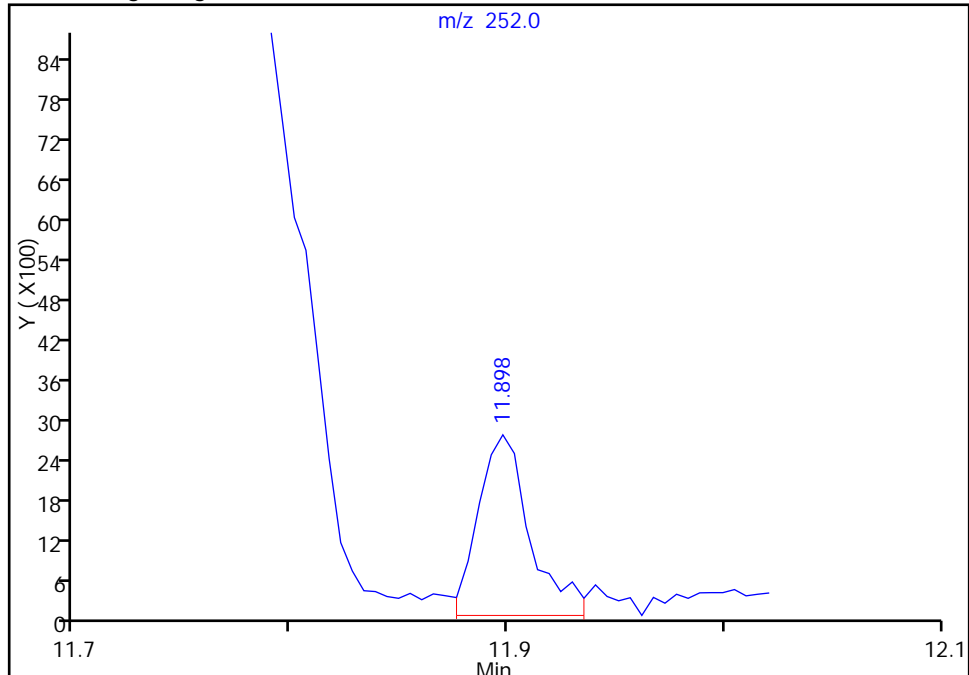
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2519.D		
Injection Date:	25-Aug-2014 18:34:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-11-A	Lab Sample ID:	680-104534-11
Client ID:	HP0085B-CS12"		
Operator ID:	RM	ALS Bottle#:	19
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	19

22 Benzo[k]fluoranthene, CAS: 207-08-9

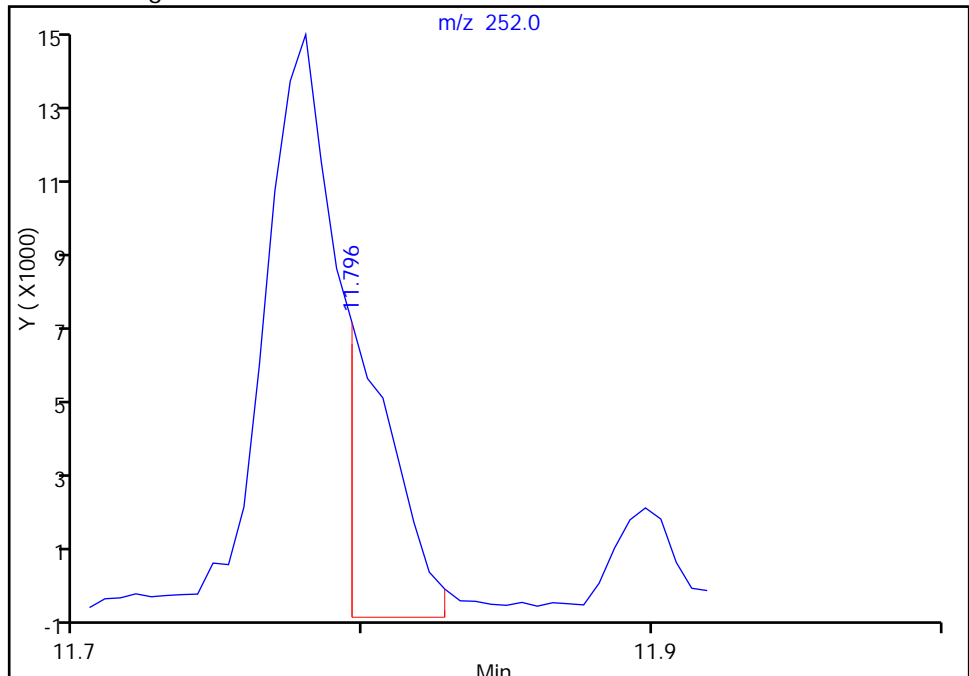
RT: 11.90
Response: 4514
Amount: 0.088085

Processing Integration Results



RT: 11.80
Response: 8702
Amount: 0.169809

Manual Integration Results



Reviewer: webbk, 26-Aug-2014 10:04:56
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS18"</u>	Lab Sample ID: <u>680-104534-12</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2626.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 12:00</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.04(g)</u>	Date Analyzed: <u>08/26/2014 23:49</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>9.2</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.4	U	7.4	3.6
208-96-8	Acenaphthylene	7.4	U	7.4	3.6
120-12-7	Anthracene	7.4	U	7.4	3.6
56-55-3	Benzo[a]anthracene	3.7	J	7.4	3.6
50-32-8	Benzo[a]pyrene	3.9	J	7.4	1.3
205-99-2	Benzo[b]fluoranthene	6.5	J	7.4	3.6
191-24-2	Benzo[g,h,i]perylene	3.6	J	7.4	3.6
207-08-9	Benzo[k]fluoranthene	2.3	J	7.4	2.2
218-01-9	Chrysene	6.1	J	7.4	3.6
53-70-3	Dibenz(a,h)anthracene	7.4	U	7.4	3.6
206-44-0	Fluoranthene	4.6	J	7.4	3.6
86-73-7	Fluorene	7.4	U	7.4	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	3.6	J	7.4	3.6
90-12-0	1-Methylnaphthalene	7.4	U	7.4	3.4
91-57-6	2-Methylnaphthalene	7.4	U	7.4	3.6
91-20-3	Naphthalene	7.4	U	7.4	3.6
85-01-8	Phenanthrene	5.3	J	7.4	2.6
129-00-0	Pyrene	4.0	J	7.4	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	97		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D
 Lims ID: 680-104534-A-12-A Lab Sample ID: 680-104534-12
 Client ID: HP0085B-CS18"
 Sample Type: Client
 Inject. Date: 26-Aug-2014 23:49:30 ALS Bottle#: 26 Worklist Smp#: 26
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-12-A
 Misc. Info.: 680-0012269-026
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 11:36:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.012	4.024	-0.012	98	581793	2.00	
* 2 Acenaphthene-d10	164	5.799	5.799	-0.001	91	295762	2.00	
* 3 Phenanthrene-d10	188	7.403	7.408	-0.005	97	375464	2.00	
* 4 Chrysene-d12	240	10.223	10.229	-0.006	99	267741	2.00	
* 5 Perylene-d12	264	11.662	11.668	-0.006	97	226855	2.00	
\$ 6 o-Terphenyl	230	7.849	7.849	0.000	89	211400	1.94	
7 Naphthalene	128	4.036	4.042	-0.006	99	21790	0.0825	
9 2-Methylnaphthalene	142	4.712	4.717	-0.005	88	8559	0.0541	
8 1-Methylnaphthalene	142	4.811	4.817	-0.006	68	7136	0.0457	7
15 Phenanthrene	178	7.426	7.432	-0.006	97	25549	0.1433	
16 Anthracene	178	7.479	7.485	-0.006	44	2983	0.0177	7
17 Fluoranthene	202	8.730	8.730	0.000	98	22456	0.1255	
18 Pyrene	202	8.965	8.971	-0.006	96	18678	0.1095	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	97	12071	0.1010	
20 Chrysene	228	10.252	10.252	0.000	98	19450	0.1658	
21 Benzo[b]fluoranthene	252	11.263	11.269	-0.006	98	19948	0.1773	M
22 Benzo[k]fluoranthene	252	11.275	11.298	-0.023	98	7410	0.0632	7M
23 Benzo[a]pyrene	252	11.598	11.610	-0.012	94	10646	0.1072	
24 Indeno[1,2,3-cd]pyrene	276	12.990	13.002	-0.012	95	10539	0.0973	
26 Benzo[g,h,i]perylene	276	13.384	13.402	-0.018	92	9983	0.0993	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Worklist Smp#: 26

Client ID: HP0085B-CS18"

Injection Vol: 2.0 ul

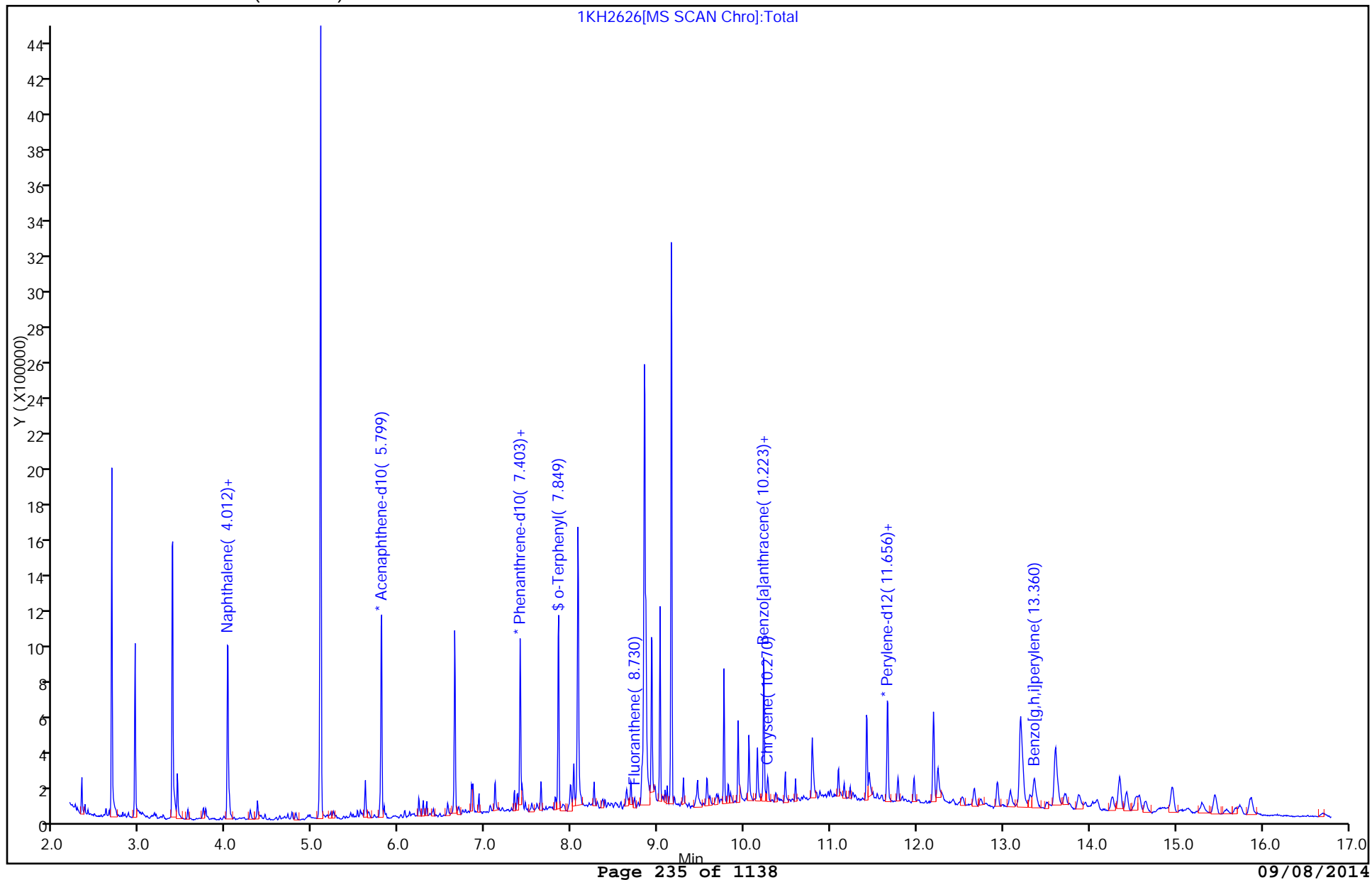
Dil. Factor: 1.0000

ALS Bottle#: 26

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

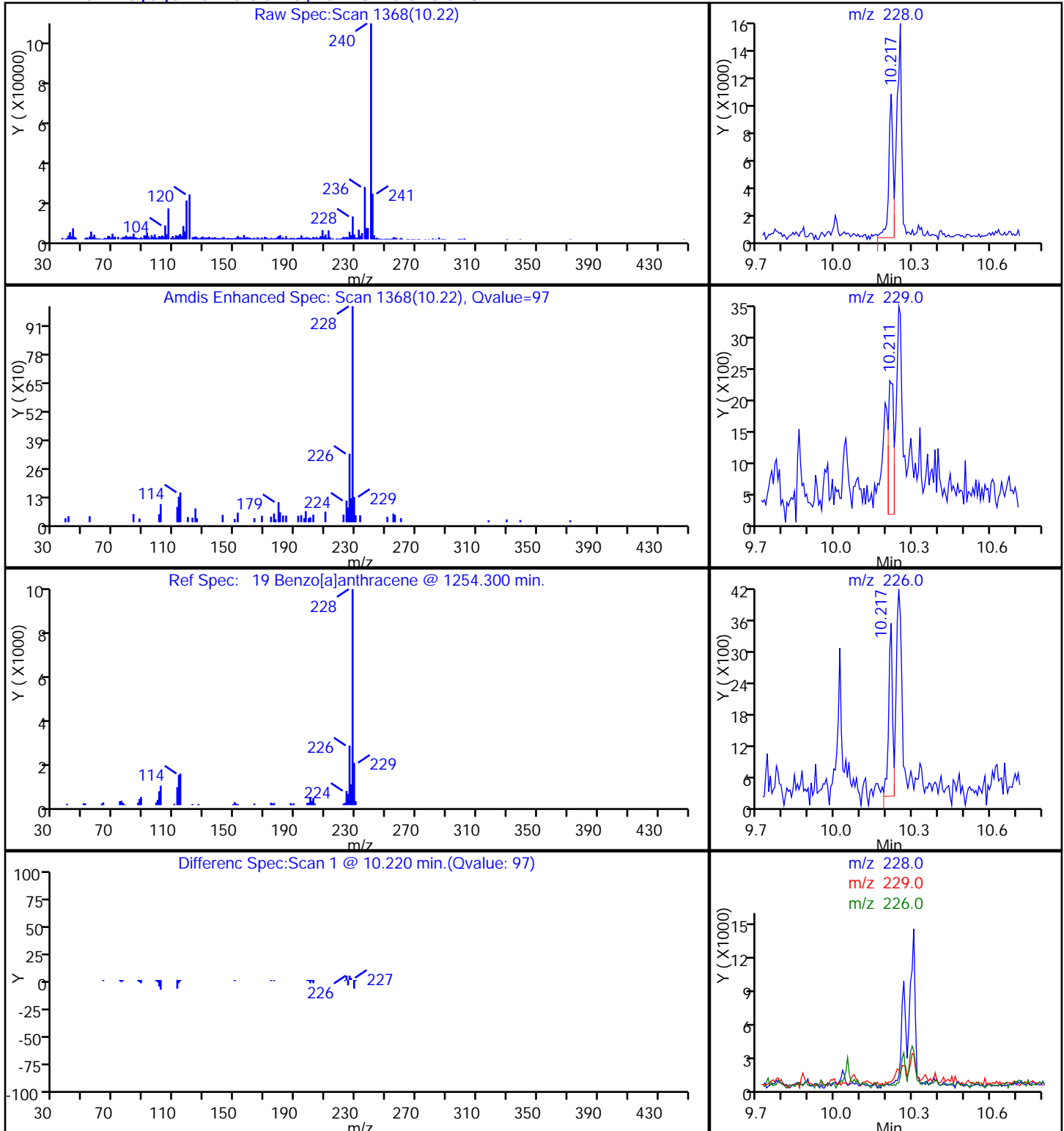
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

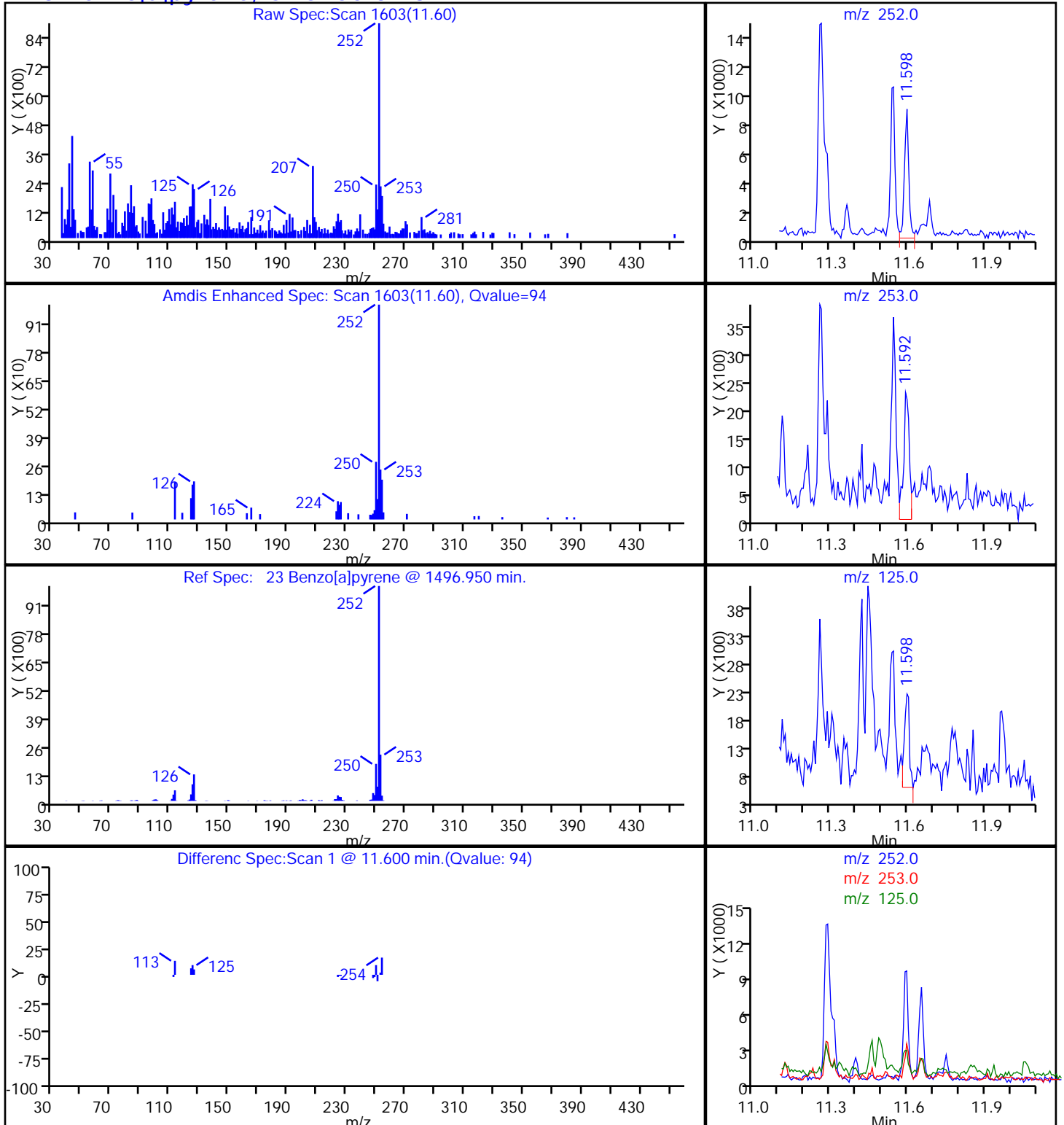
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

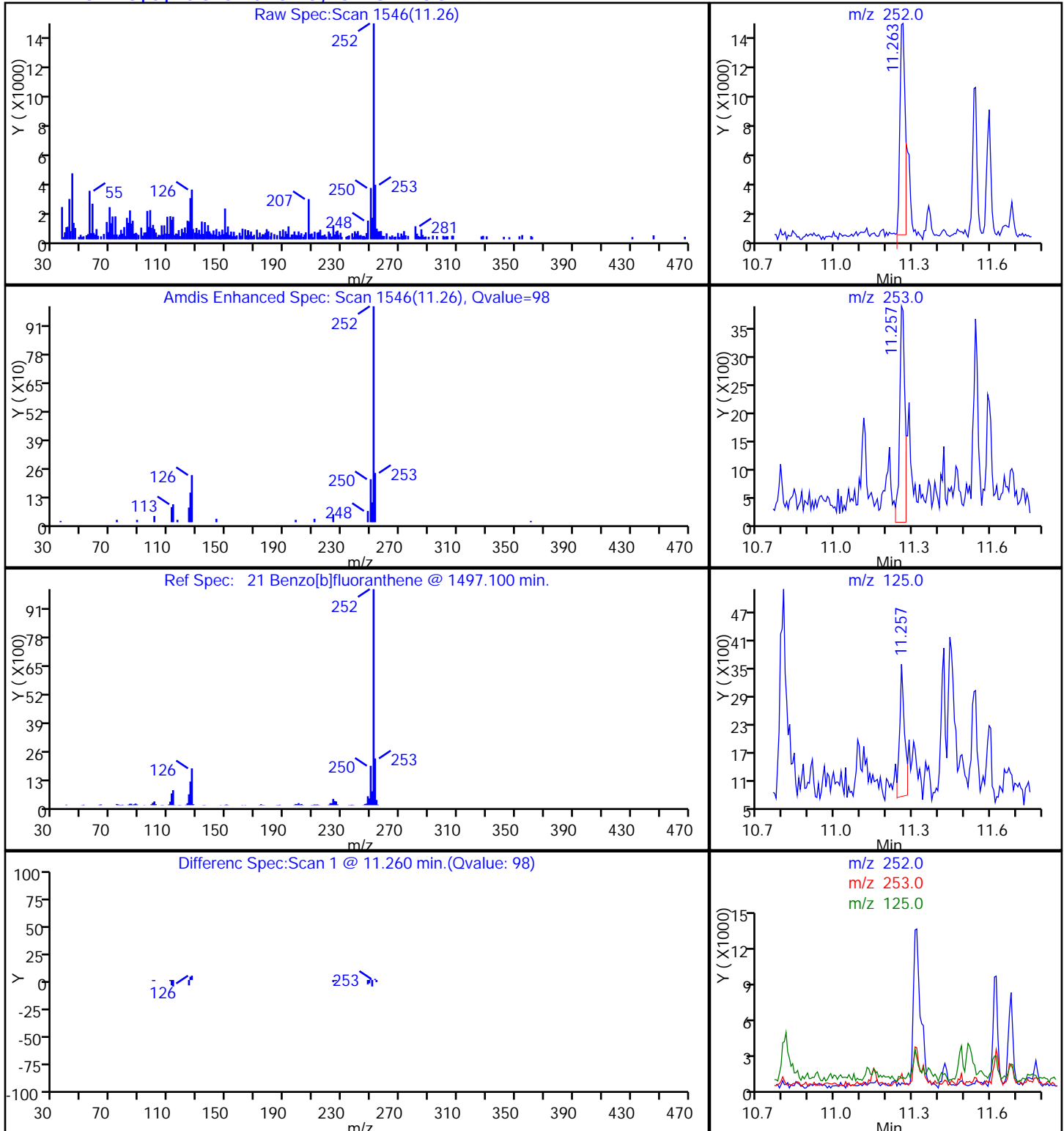
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

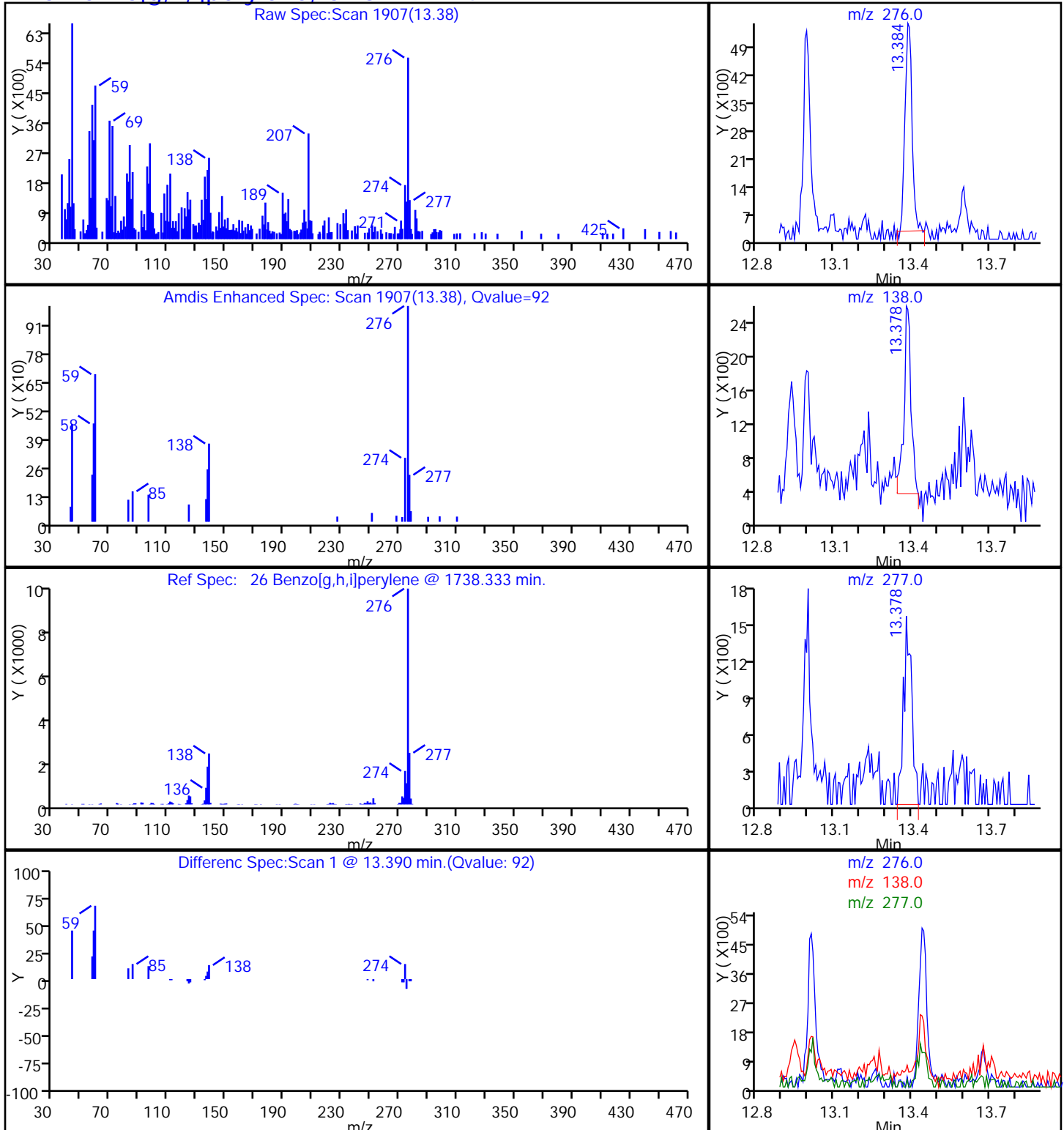
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

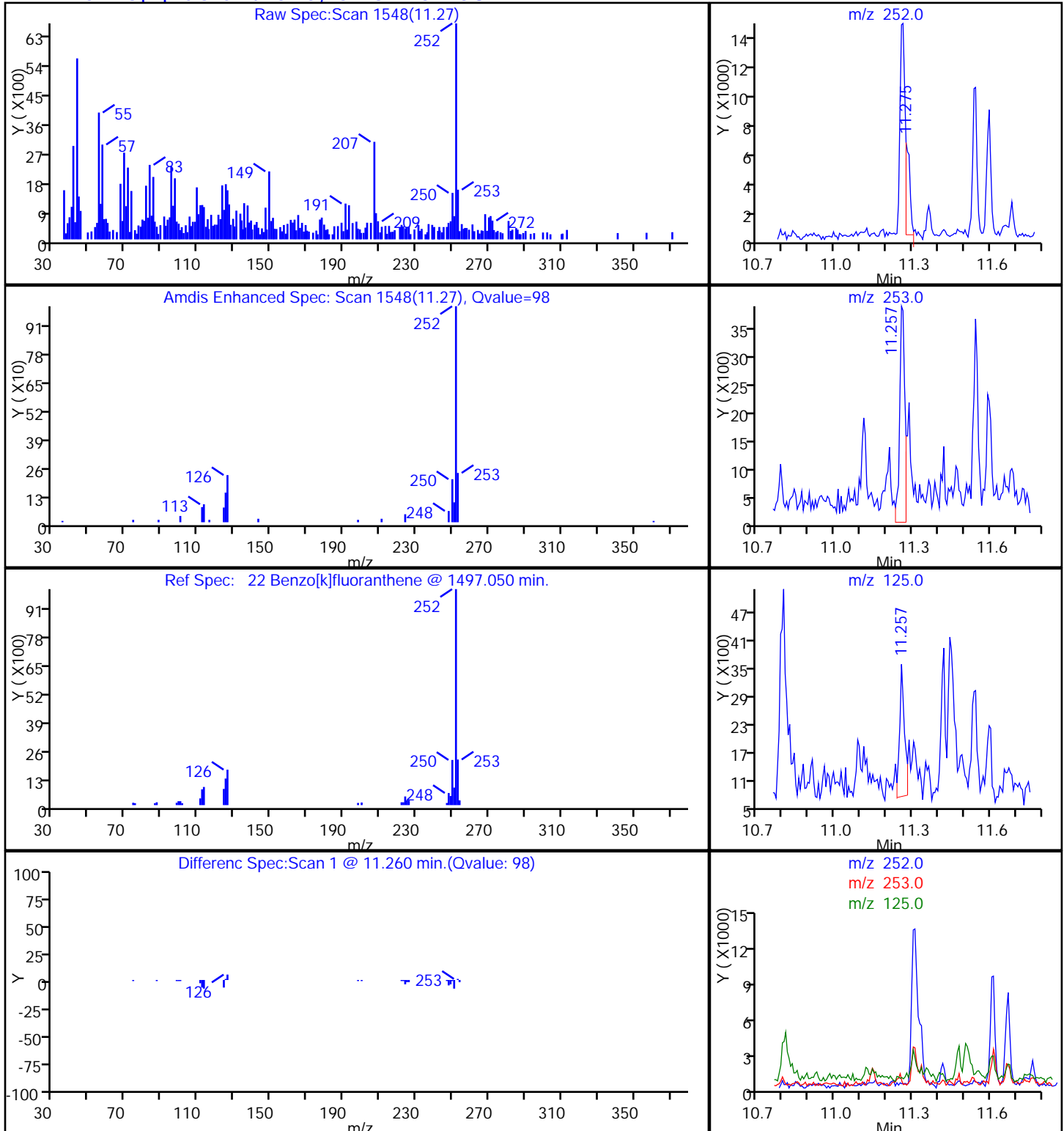
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

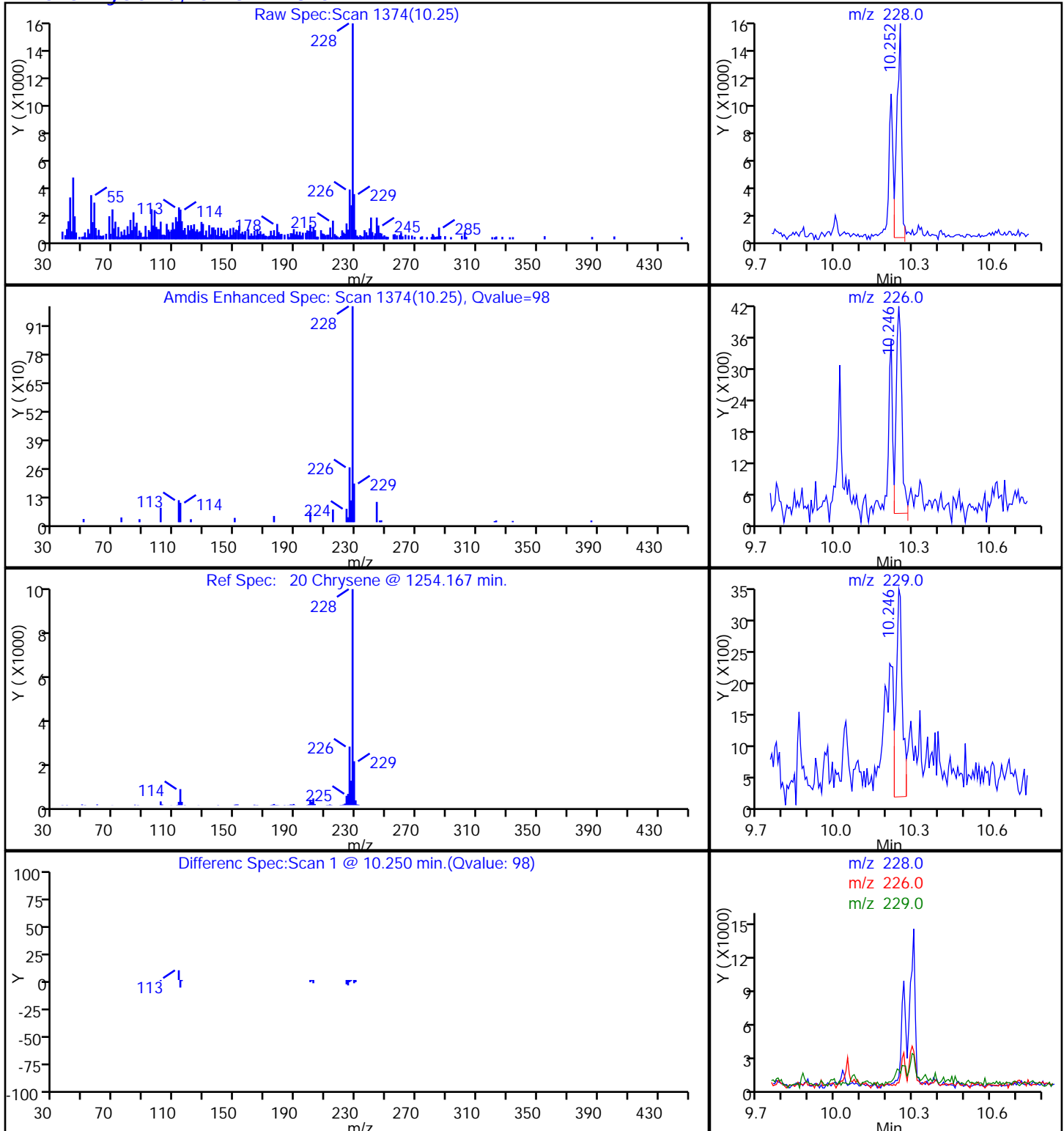
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

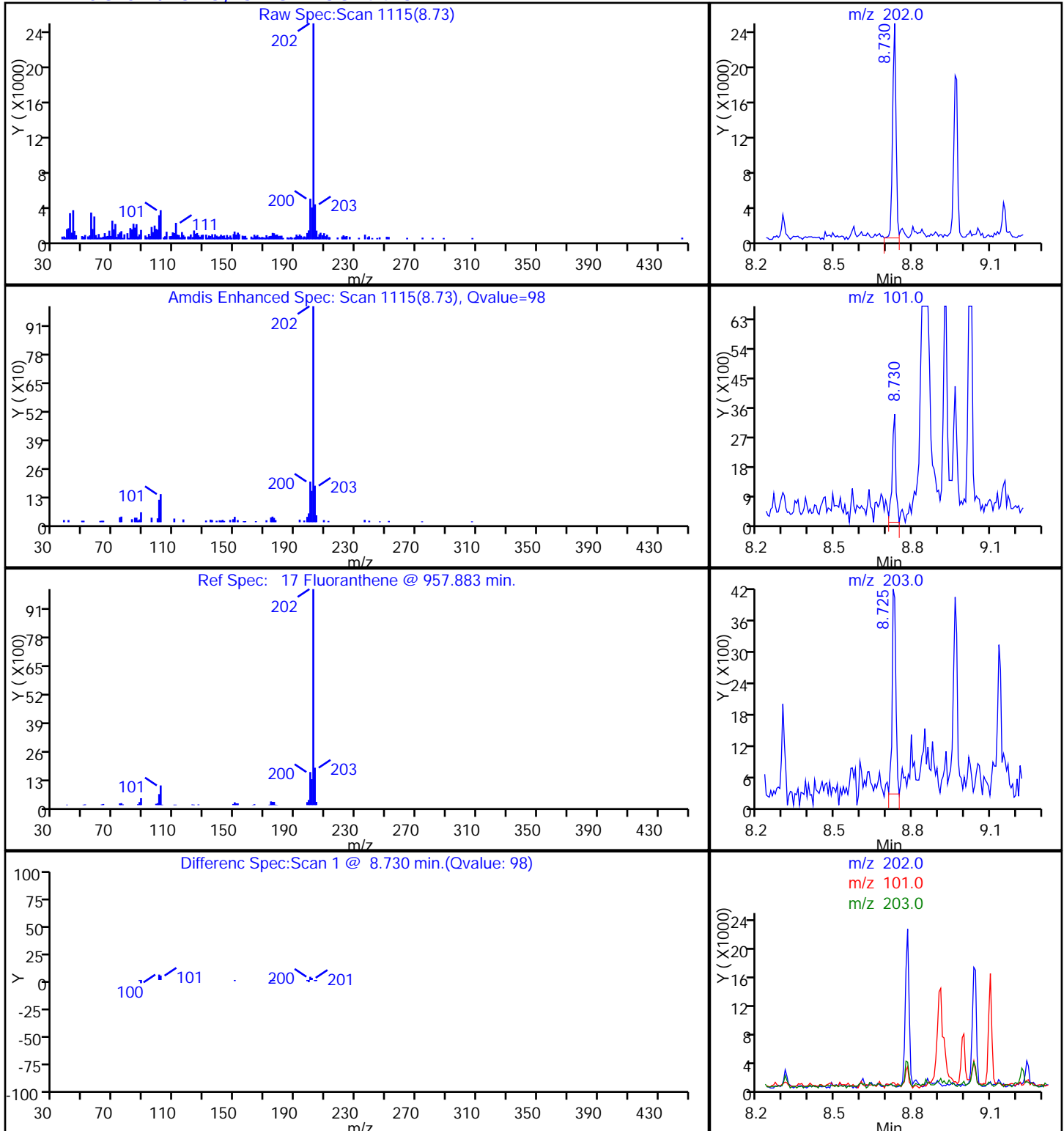
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

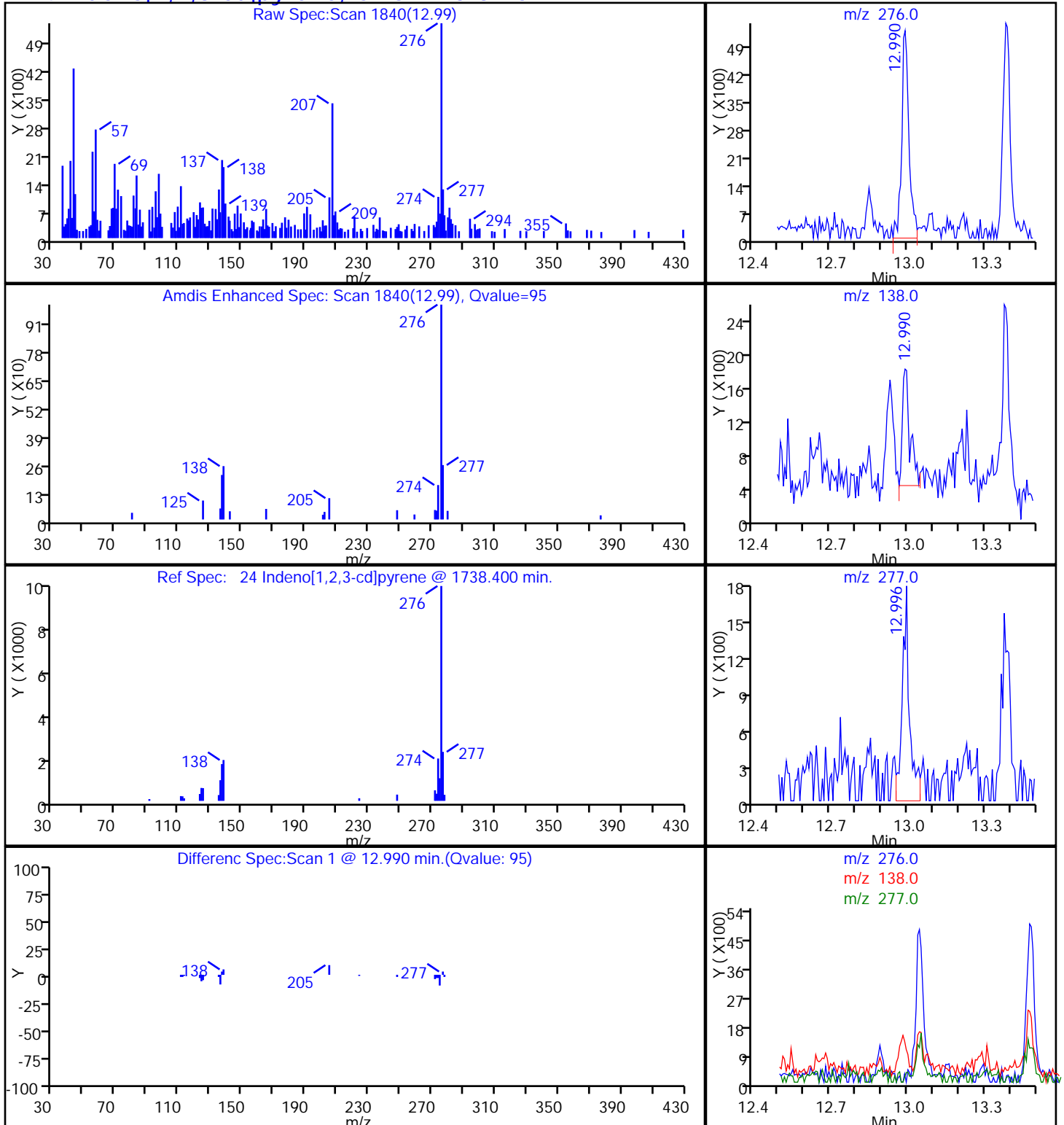
Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

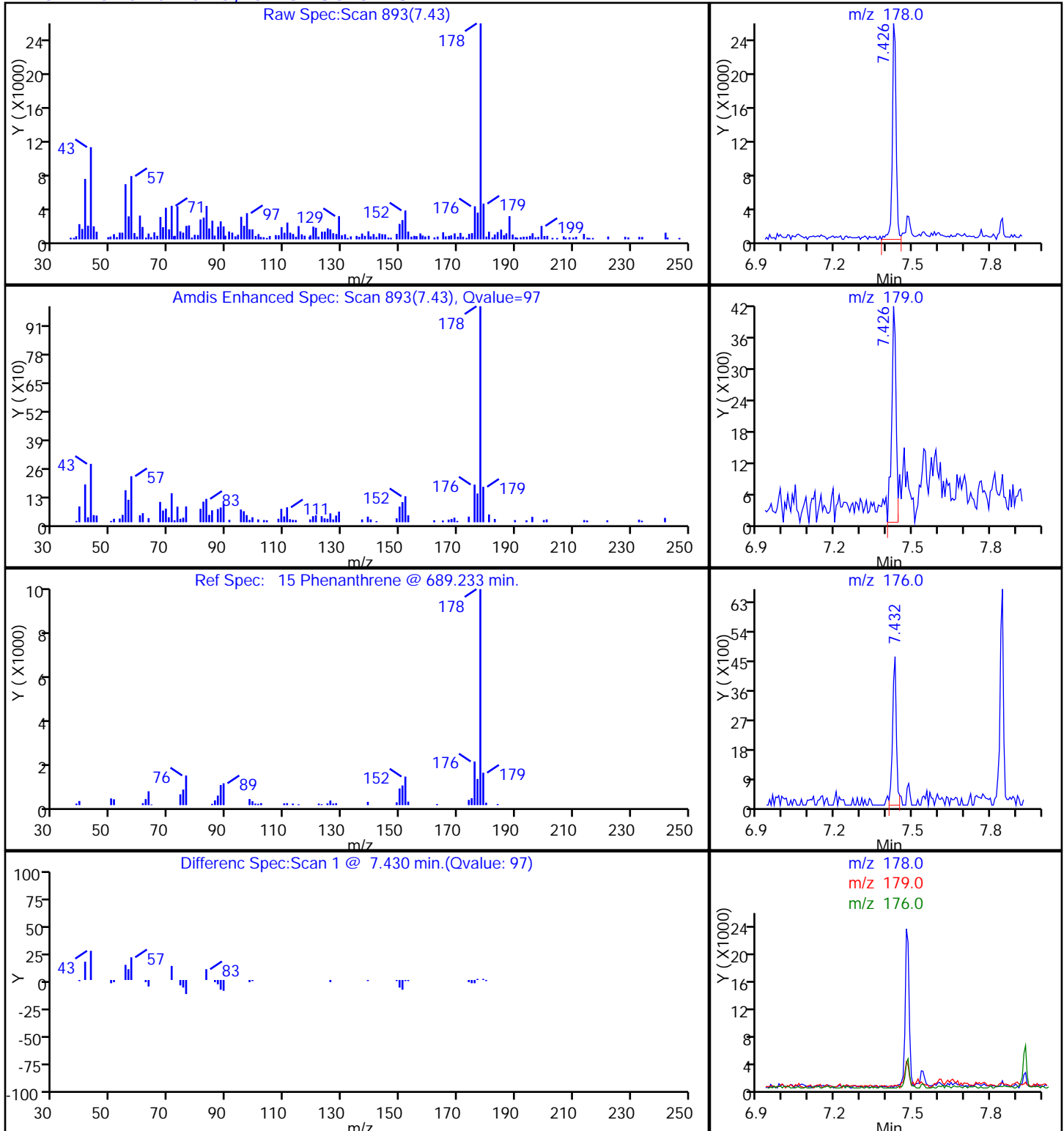
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D

Injection Date: 26-Aug-2014 23:49:30

Instrument ID: CMSK

Lims ID: 680-104534-A-12-A

Lab Sample ID: 680-104534-12

Client ID: HP0085B-CS18"

Operator ID: RM

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

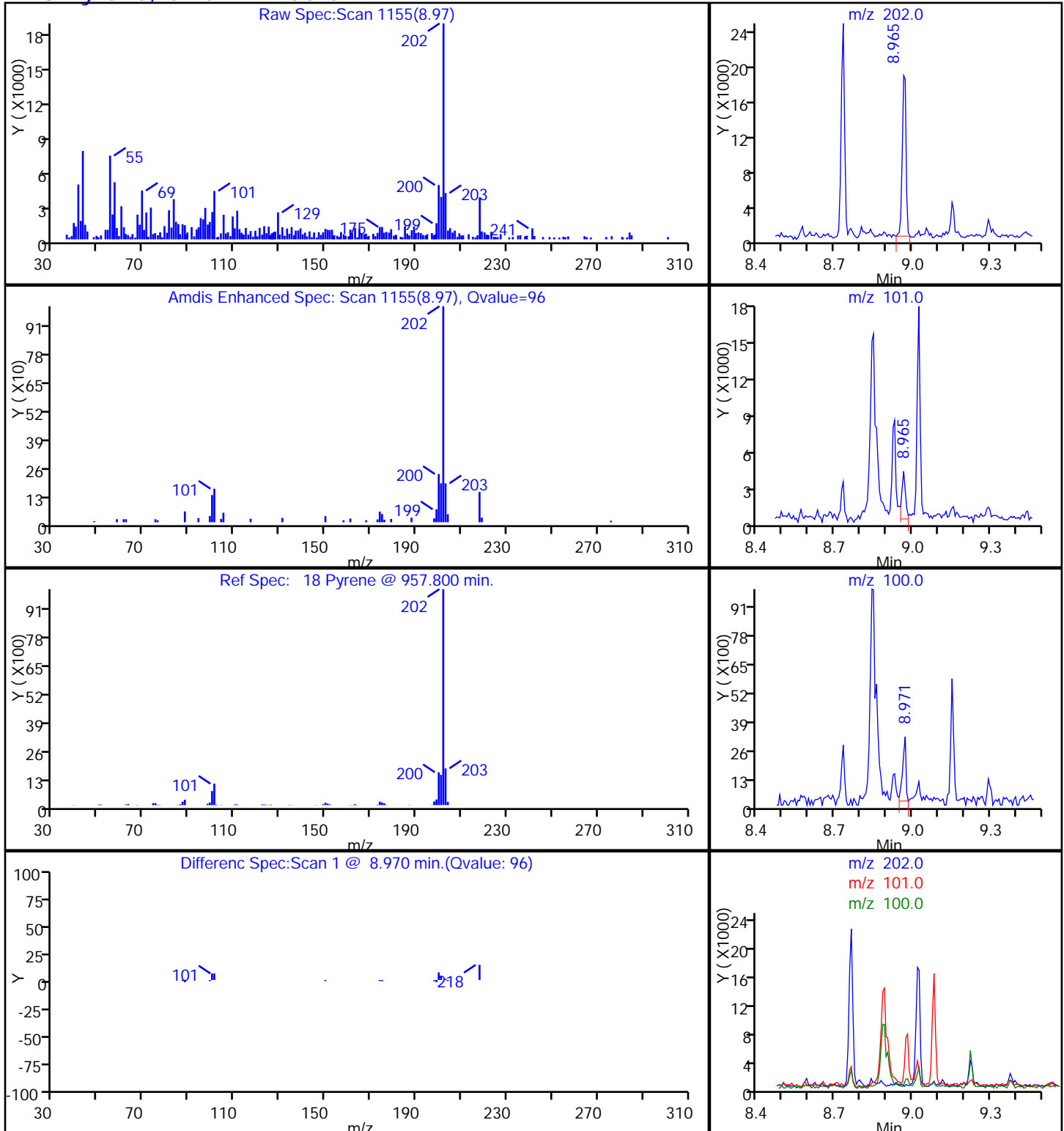
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



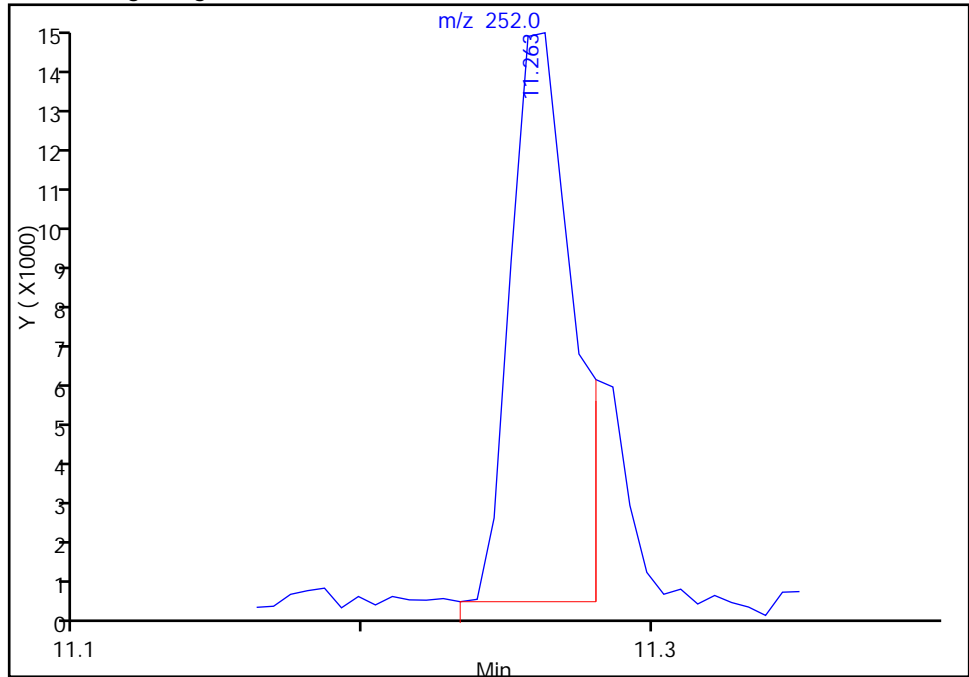
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D		
Injection Date:	26-Aug-2014 23:49:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-12-A	Lab Sample ID:	680-104534-12
Client ID:	HP0085B-CS18"		
Operator ID:	RM	ALS Bottle#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270_LLPAH_CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	26

21 Benzo[b]fluoranthene, CAS: 205-99-2

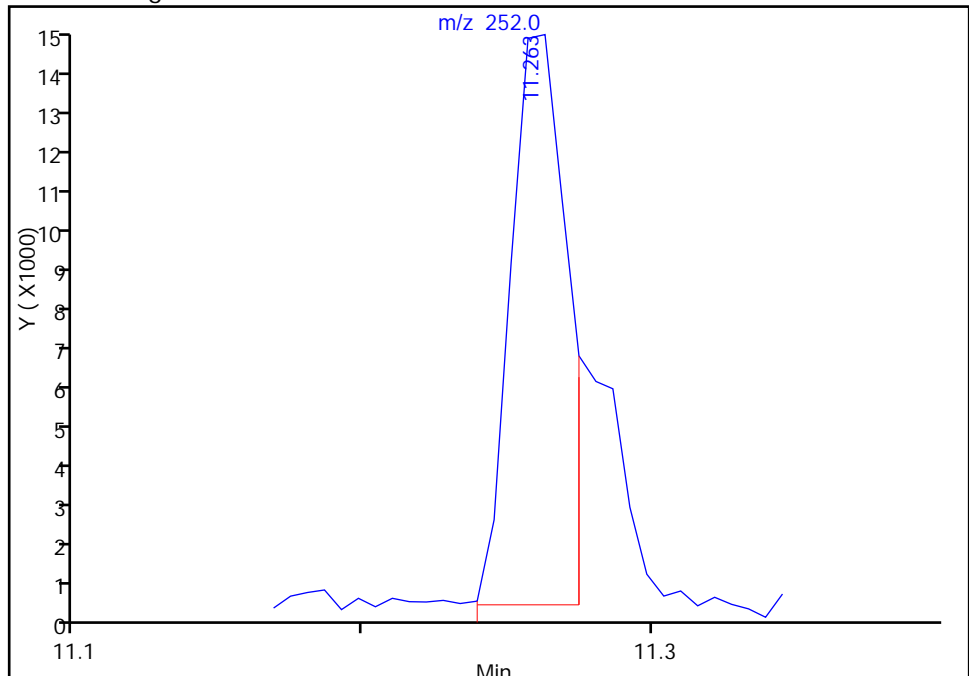
RT: 11.26
Response: 21867
Amount: 0.194410

Processing Integration Results



RT: 11.26
Response: 19948
Amount: 0.177349

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 11:36:27
Audit Action: Manually Integrated
Audit Reason: Split Peak

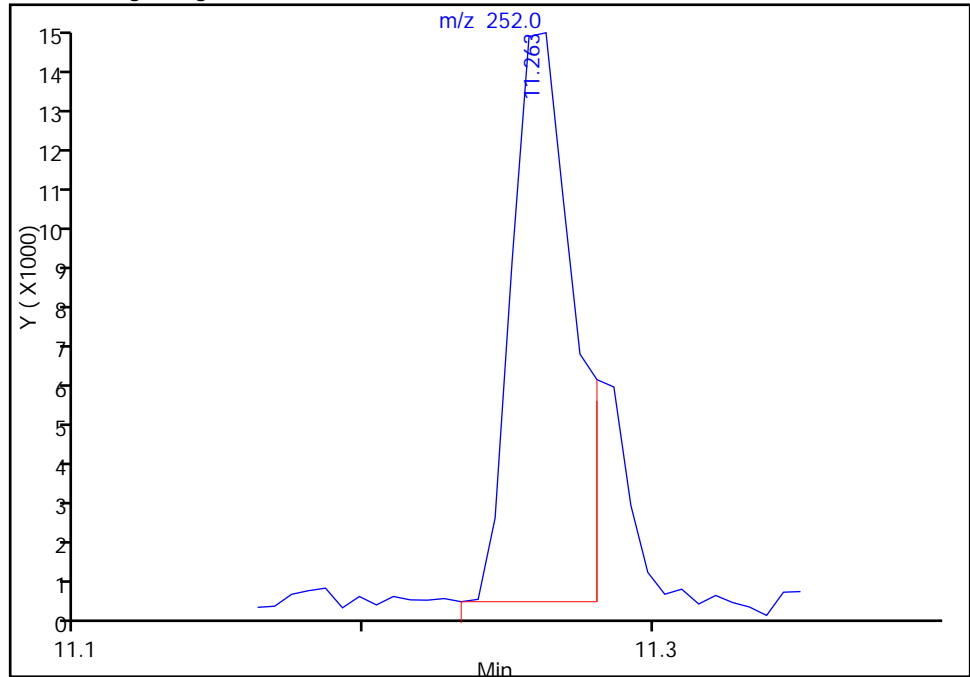
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2626.D		
Injection Date:	26-Aug-2014 23:49:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-12-A	Lab Sample ID:	680-104534-12
Client ID:	HP0085B-CS18"		
Operator ID:	RM	ALS Bottle#:	26
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270_LLPAH_CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	26

22 Benzo[k]fluoranthene, CAS: 207-08-9

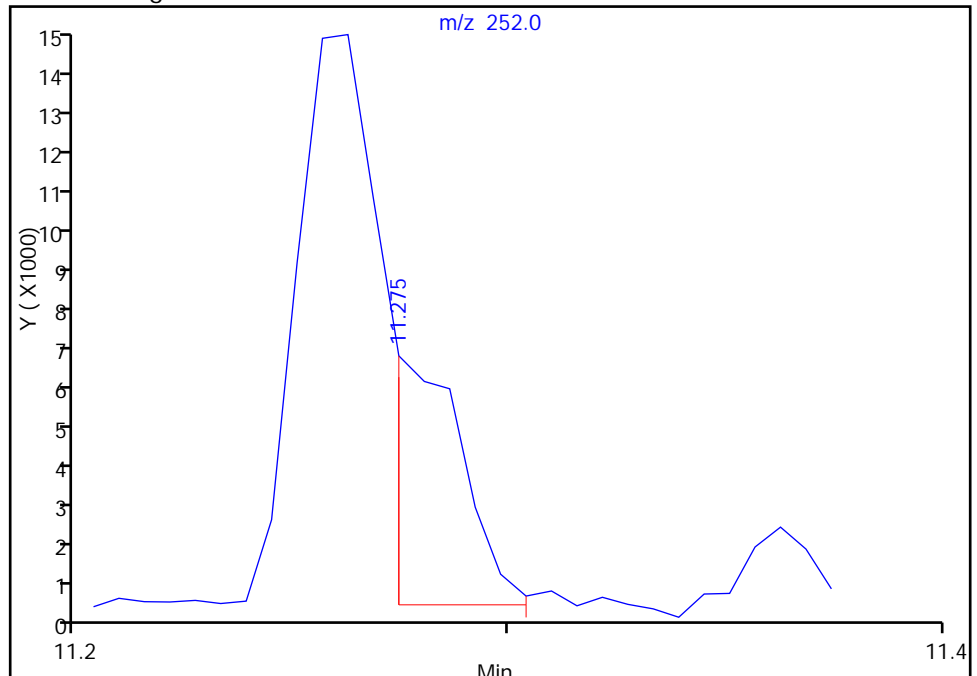
RT: 11.26
Response: 21867
Amount: 0.186460

Processing Integration Results



RT: 11.27
Response: 7410
Amount: 0.063185

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 11:36:27
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>HP0085B-CS24"</u>	Lab Sample ID: <u>680-104534-13</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2919.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 12:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.05(g)</u>	Date Analyzed: <u>08/29/2014 16:53</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>10.6</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>346540</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.5	U	7.5	3.7
208-96-8	Acenaphthylene	7.5	U	7.5	3.7
120-12-7	Anthracene	7.5	U	7.5	3.7
56-55-3	Benzo[a]anthracene	7.5	U	7.5	3.7
50-32-8	Benzo[a]pyrene	3.0	J	7.5	1.3
205-99-2	Benzo[b]fluoranthene	4.2	J	7.5	3.7
191-24-2	Benzo[g,h,i]perylene	7.5	U	7.5	3.7
207-08-9	Benzo[k]fluoranthene	7.5	U	7.5	2.2
218-01-9	Chrysene	3.7	J	7.5	3.7
53-70-3	Dibenz(a,h)anthracene	7.5	U	7.5	3.7
206-44-0	Fluoranthene	4.3	J	7.5	3.7
86-73-7	Fluorene	7.5	U	7.5	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	7.5	U	7.5	3.7
90-12-0	1-Methylnaphthalene	7.5	U	7.5	3.5
91-57-6	2-Methylnaphthalene	7.5	U	7.5	3.7
91-20-3	Naphthalene	7.5	U	7.5	3.7
85-01-8	Phenanthrene	2.9	J	7.5	2.7
129-00-0	Pyrene	7.5	U	7.5	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	95		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D
 Lims ID: 680-104534-A-13-A Lab Sample ID: 680-104534-13
 Client ID: HP0085B-CS24"
 Sample Type: Client
 Inject. Date: 29-Aug-2014 16:53:30 ALS Bottle#: 18 Worklist Smp#: 19
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: 680-104534-A-13-A
 Misc. Info.: 680-0012365-019
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 02-Sep-2014 16:06:14 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK008

First Level Reviewer: webbk

Date: 02-Sep-2014 10:52:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.206	4.212	-0.006	99	305347	2.00	
* 2 Acenaphthene-d10	164	6.046	6.046	0.000	92	166053	2.00	
* 3 Phenanthrene-d10	188	7.704	7.704	0.000	98	265552	2.00	
* 4 Chrysene-d12	240	10.593	10.598	-0.005	99	215071	2.00	
* 5 Perylene-d12	264	12.197	12.192	0.005	99	139584	2.00	
\$ 6 o-Terphenyl	230	8.148	8.148	0.000	89	161087	1.89	
15 Phenanthrene	178	7.731	7.731	0.000	64	11446	0.0766	
16 Anthracene	178	7.790	7.790	0.000	59	2184	0.0156	7
17 Fluoranthene	202	9.063	9.063	0.000	96	17048	0.1153	
18 Pyrene	202	9.309	9.309	0.000	95	15170	0.0980	
19 Benzo[a]anthracene	228	10.582	10.587	-0.005	38	9021	0.0775	
20 Chrysene	228	10.619	10.625	-0.006	73	11311	0.1001	
21 Benzo[b]fluoranthene	252	11.727	11.727	0.000	91	9972	0.1126	M
22 Benzo[k]fluoranthene	252	11.743	11.759	-0.016	93	4624	0.0551	7M
23 Benzo[a]pyrene	252	12.128	12.128	0.000	83	5893	0.0807	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Worklist Smp#: 19

Client ID: HP0085B-CS24"

Injection Vol: 2.0 ul

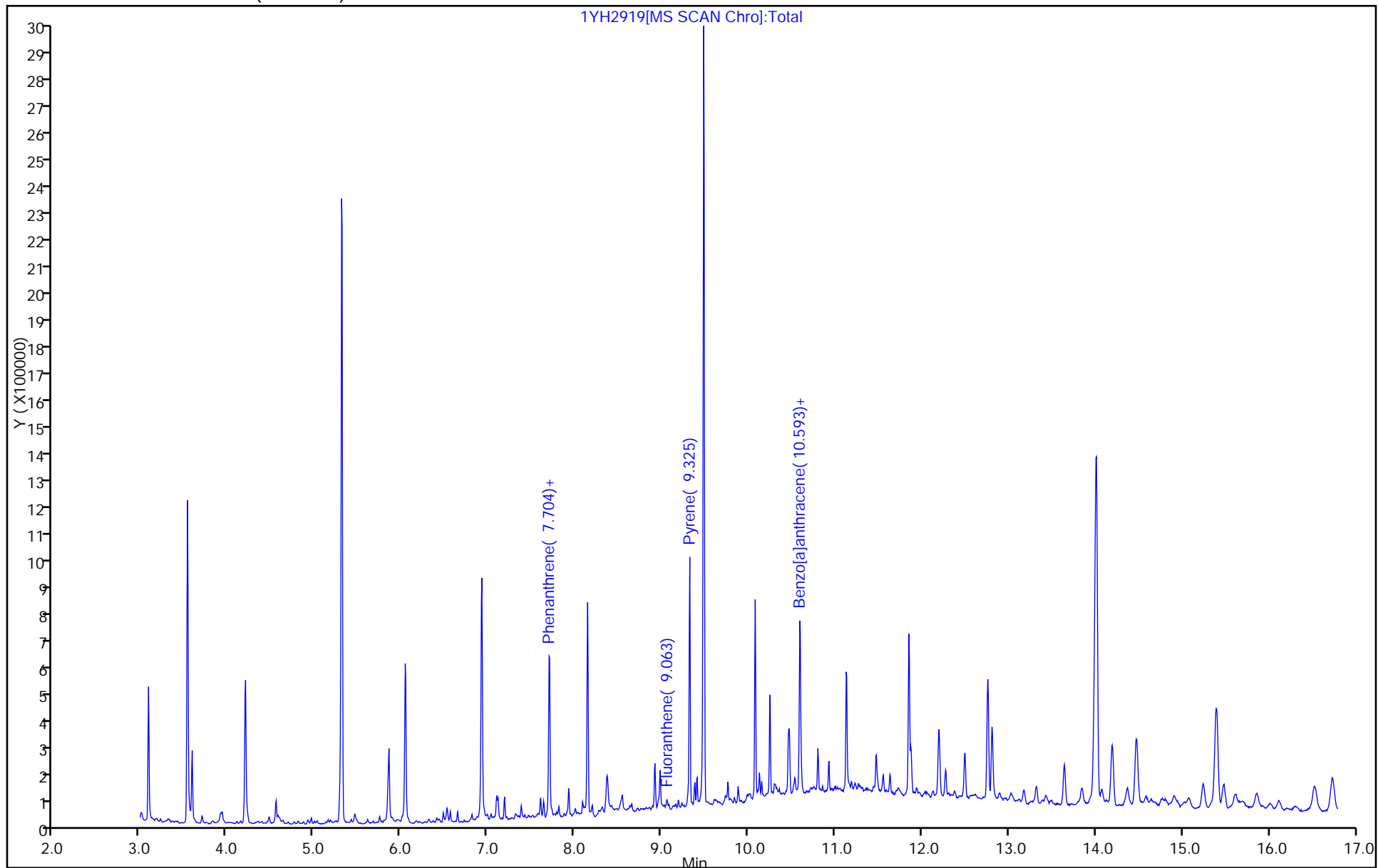
Dil. Factor: 1.0000

ALS Bottle#: 18

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

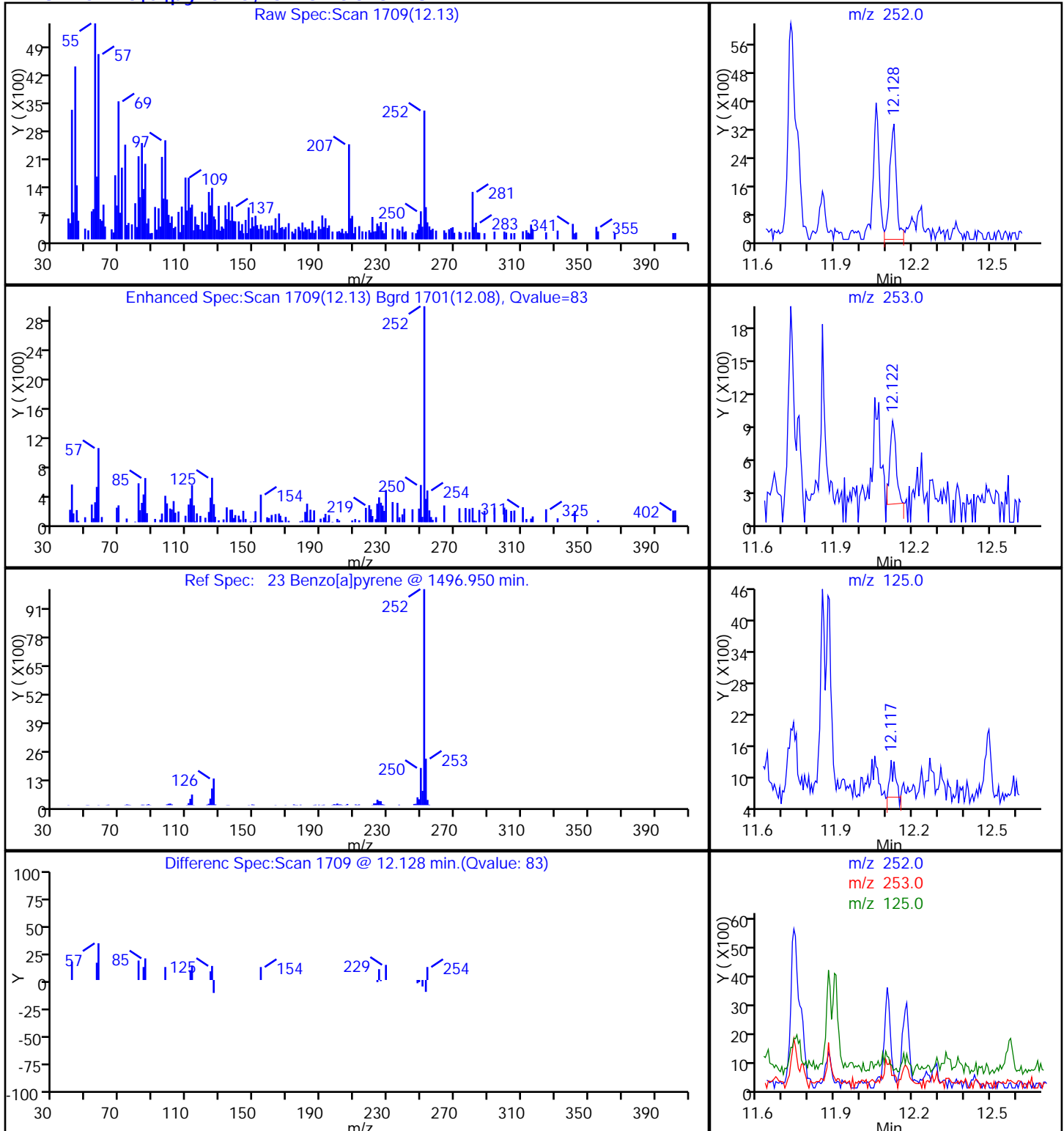
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

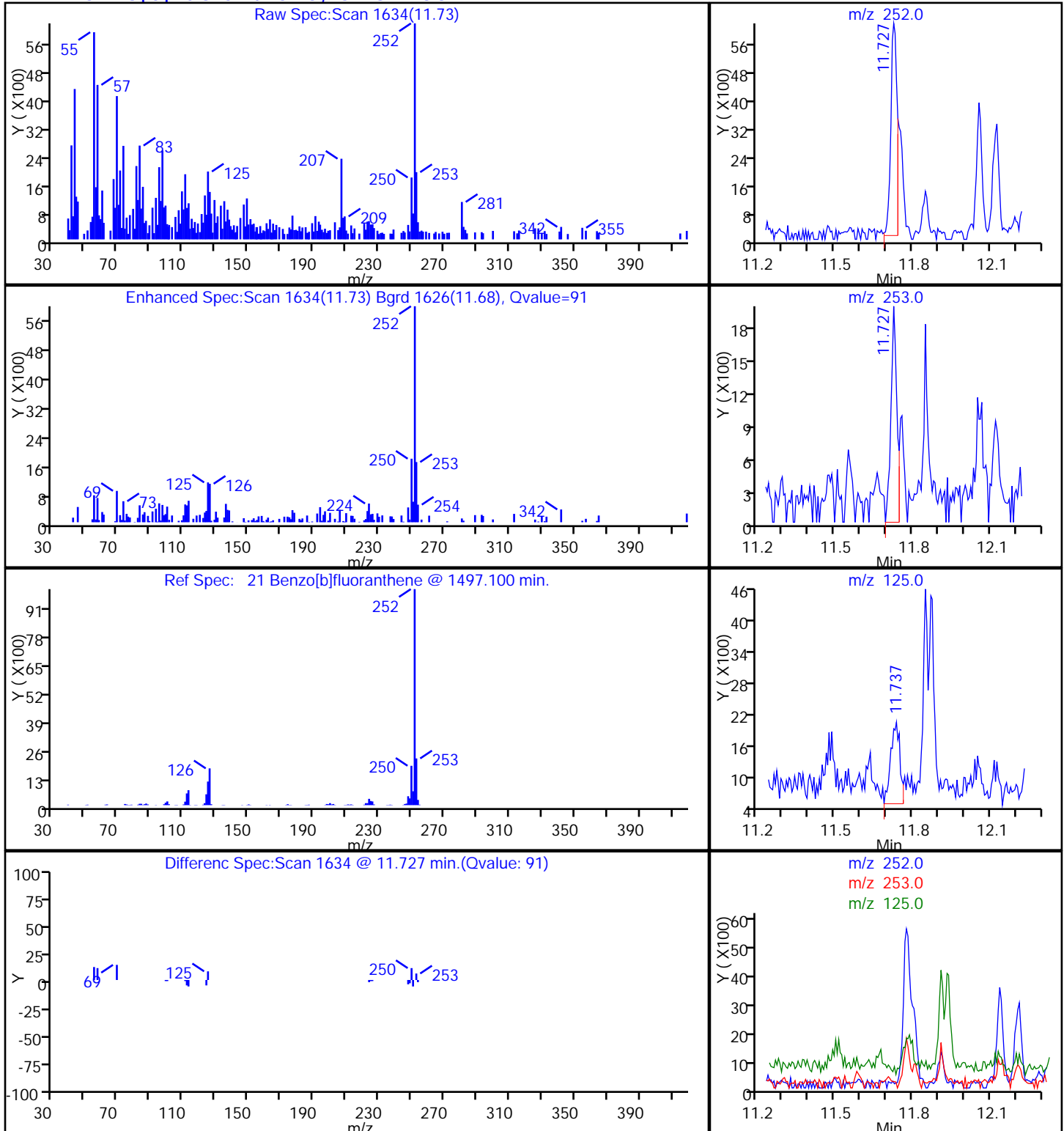
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

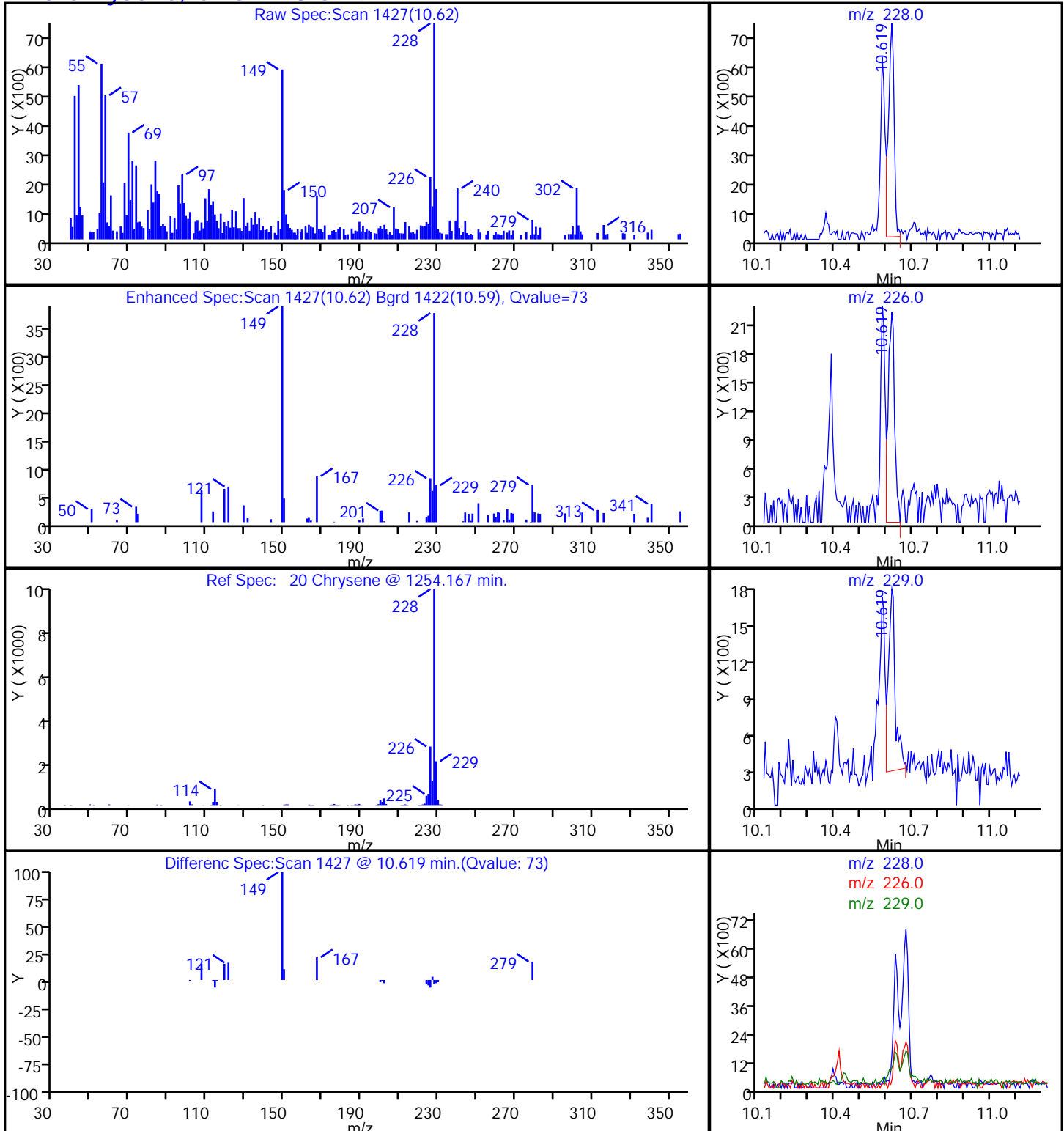
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

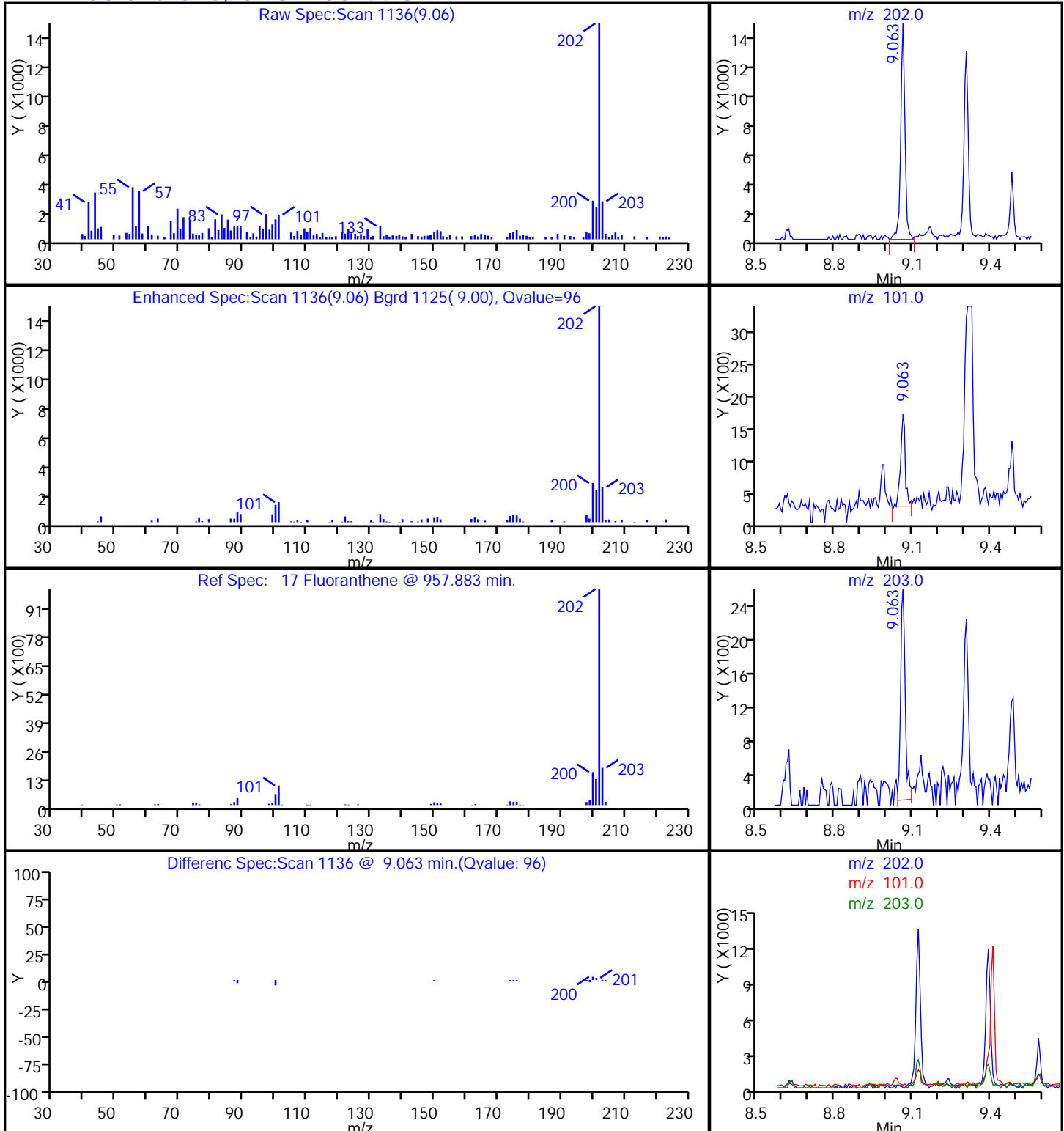
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

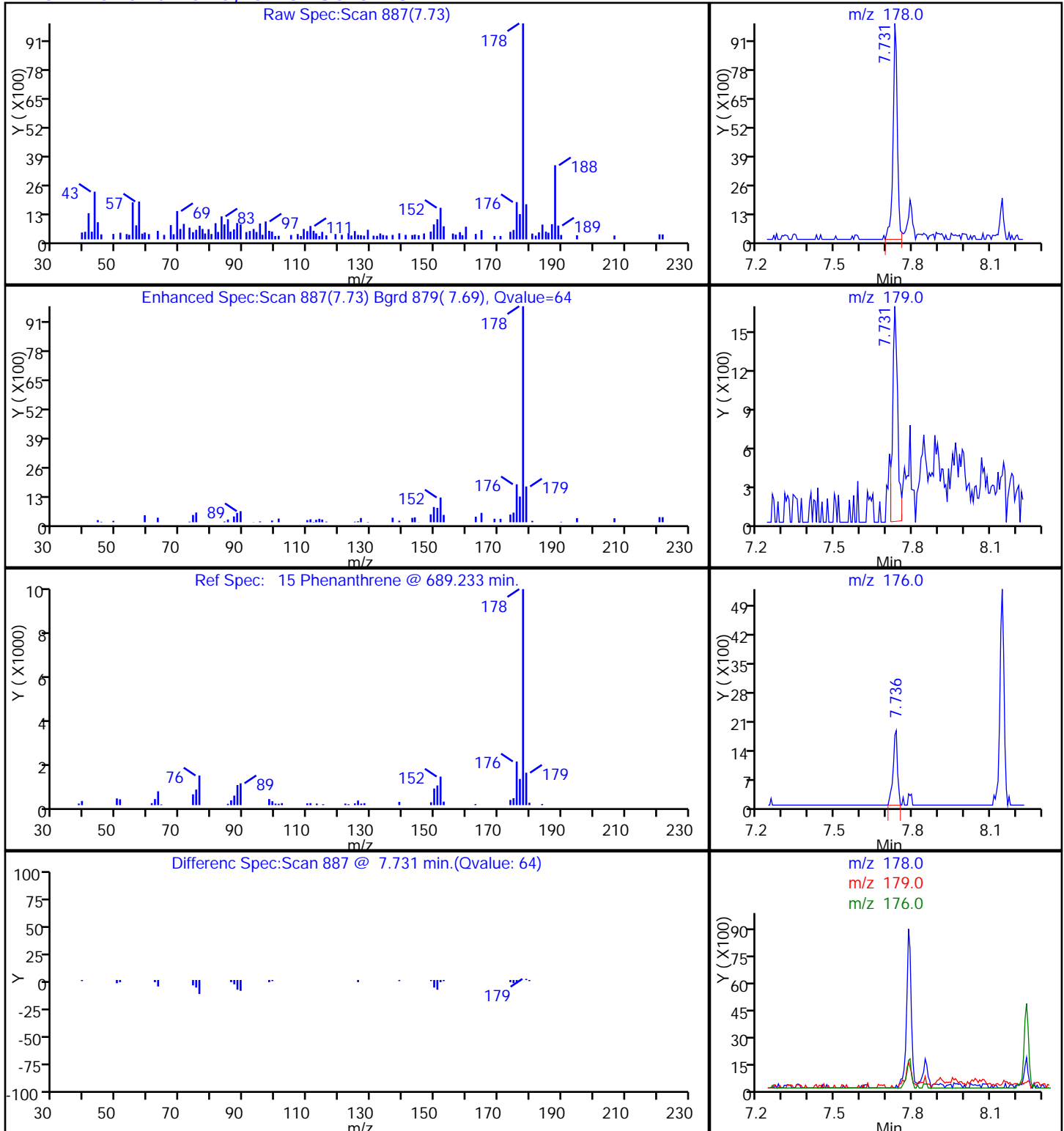
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



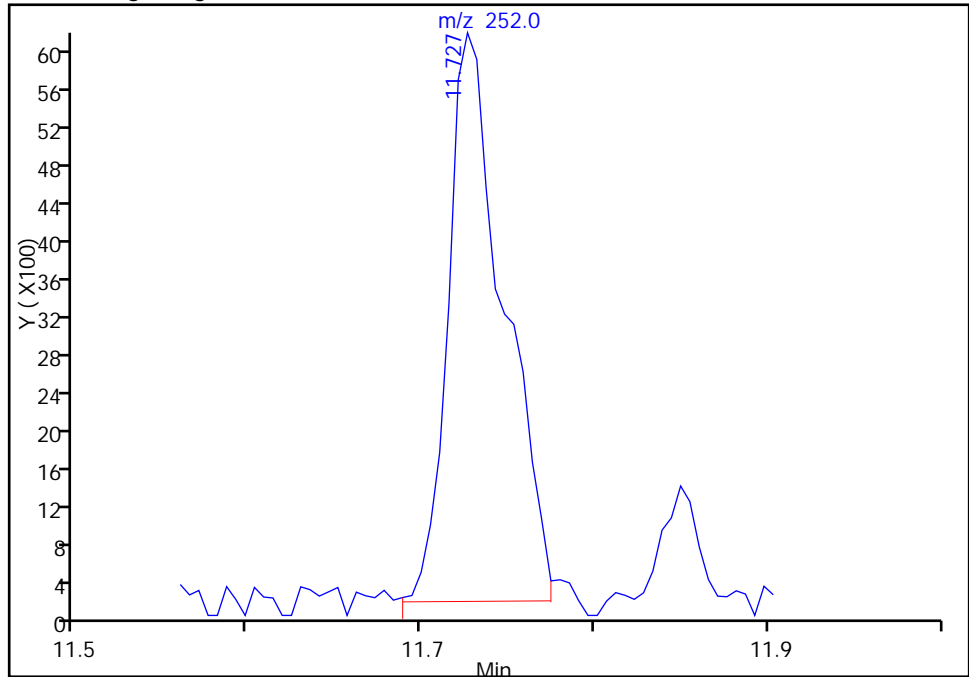
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D		
Injection Date:	29-Aug-2014 16:53:30	Instrument ID:	CMSY
Lims ID:	680-104534-A-13-A	Lab Sample ID:	680-104534-13
Client ID:	HP0085B-CS24"		
Operator ID:	RM	ALS Bottle#:	18
Injection Vol:	2.0 ul	Dil. Factor:	1.0000
Method:	8270D_LLPAH_MSY	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	19

21 Benzo[b]fluoranthene, CAS: 205-99-2

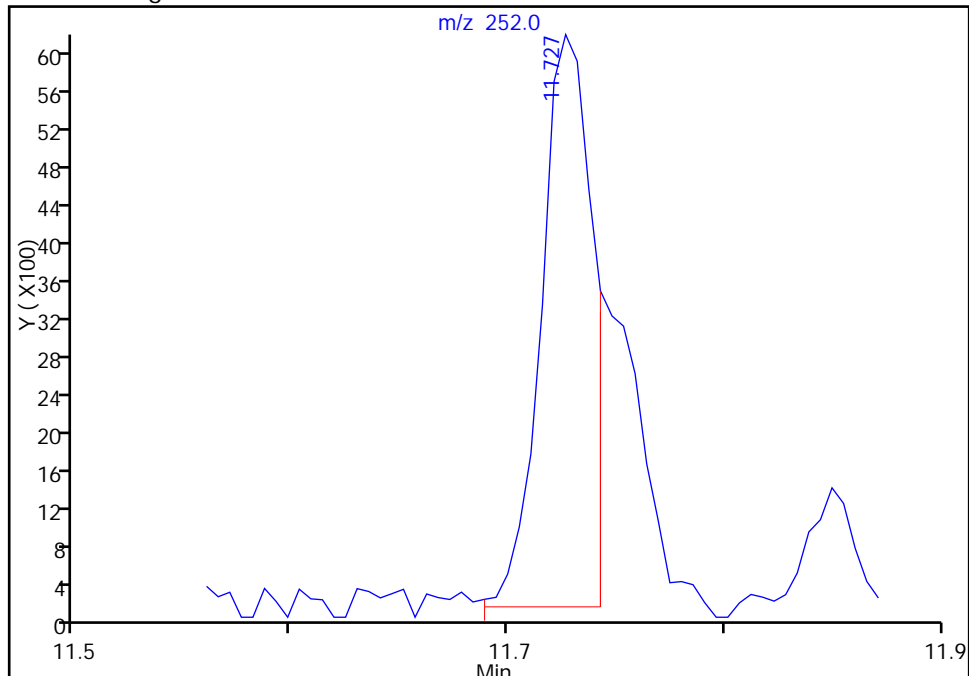
RT: 11.73
Response: 13320
Amount: 0.150351

Processing Integration Results



RT: 11.73
Response: 9972
Amount: 0.112560

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:52:50
Audit Action: Manually Integrated
Audit Reason: Split Peak

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2919.D

Injection Date: 29-Aug-2014 16:53:30

Instrument ID: CMSY

Lims ID: 680-104534-A-13-A

Lab Sample ID: 680-104534-13

Client ID: HP0085B-CS24"

Operator ID: RM

ALS Bottle#: 18

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

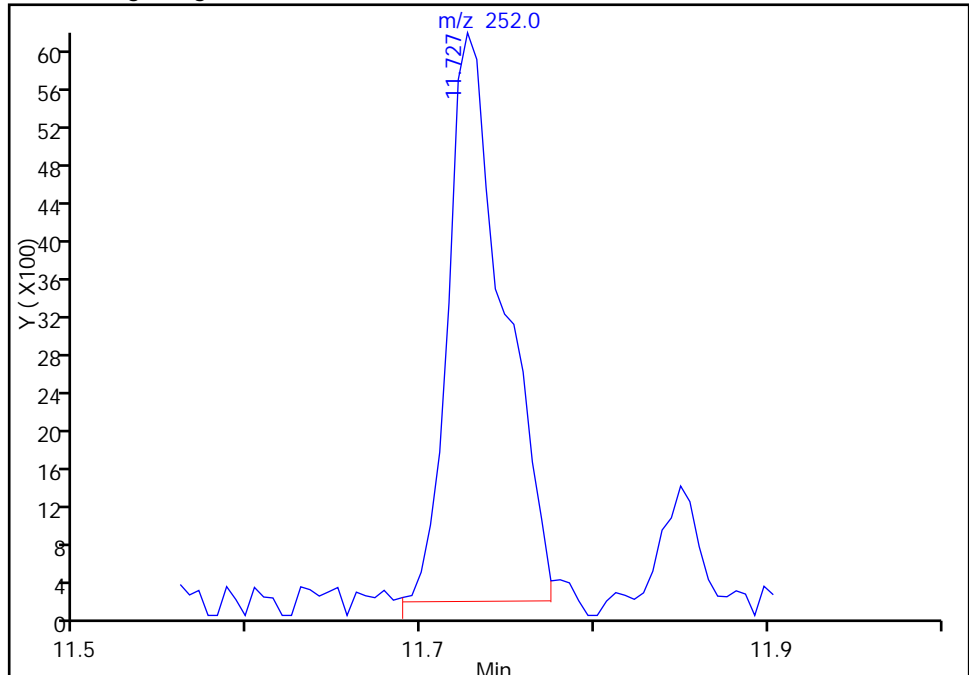
Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

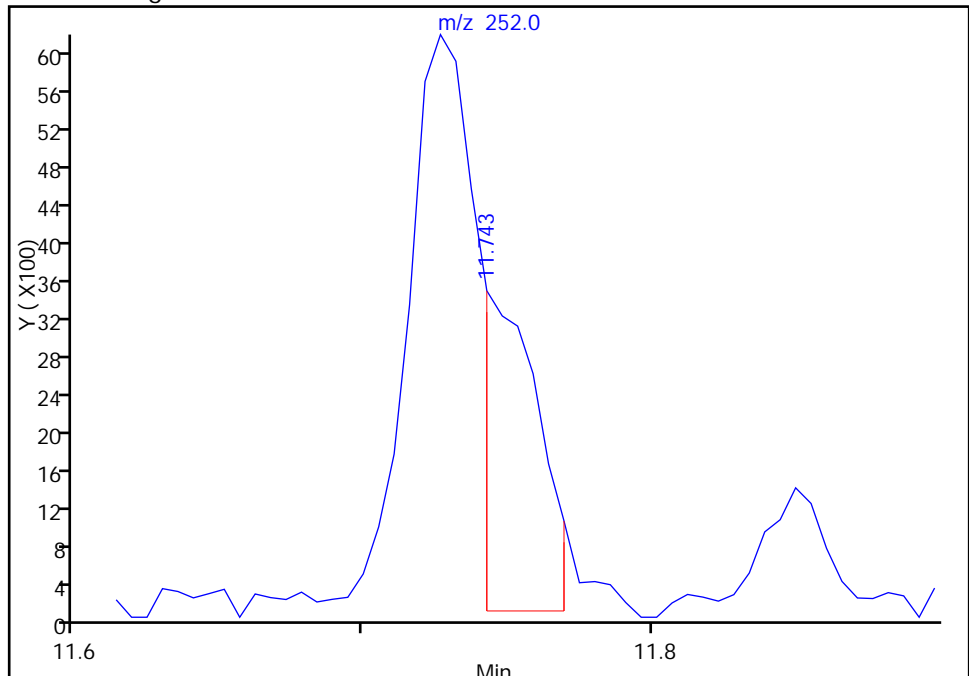
Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9RT: 11.73
Response: 13320
Amount: 0.158832

Processing Integration Results

RT: 11.74
Response: 4624
Amount: 0.055138

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:52:50

Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350A-CS4"</u>	Lab Sample ID: <u>680-104534-14</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2627.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 14:45</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.03(g)</u>	Date Analyzed: <u>08/27/2014 00:12</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>21.6</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	U	85	42
208-96-8	Acenaphthylene	85	U	85	42
120-12-7	Anthracene	87		85	42
56-55-3	Benzo[a]anthracene	670		85	42
50-32-8	Benzo[a]pyrene	700		85	15
205-99-2	Benzo[b]fluoranthene	1100		85	42
191-24-2	Benzo[g,h,i]perylene	330		85	42
207-08-9	Benzo[k]fluoranthene	450		85	25
218-01-9	Chrysene	860		85	42
53-70-3	Dibenz(a,h)anthracene	110		85	42
206-44-0	Fluoranthene	1300		85	42
86-73-7	Fluorene	85	U	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	340		85	42
90-12-0	1-Methylnaphthalene	87		85	39
91-57-6	2-Methylnaphthalene	96		85	42
91-20-3	Naphthalene	82	J	85	42
85-01-8	Phenanthrene	590		85	31
129-00-0	Pyrene	1000		85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D
 Lims ID: 680-104534-A-14-A Lab Sample ID: 680-104534-14
 Client ID: FM0350A-CS4"
 Sample Type: Client
 Inject. Date: 27-Aug-2014 00:12:30 ALS Bottle#: 27 Worklist Smp#: 27
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-14-A
 Misc. Info.: 680-0012269-027
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 11:40:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.024	4.024	0.000	98	470412	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	91	238626	2.00	
* 3 Phenanthrene-d10	188	7.402	7.408	-0.006	97	282883	2.00	
* 4 Chrysene-d12	240	10.229	10.229	0.000	97	200429	2.00	
* 5 Perylene-d12	264	11.656	11.668	-0.012	96	164781	2.00	
7 Naphthalene	128	4.042	4.042	0.000	86	41409	0.1938	
9 2-Methylnaphthalene	142	4.717	4.717	0.000	83	28887	0.2260	
8 1-Methylnaphthalene	142	4.817	4.817	0.000	81	25786	0.2042	
11 Acenaphthylene	152	5.646	5.646	0.000	88	9896	0.0544	
14 Fluorene	166	6.386	6.386	0.000	53	6855	0.0616	
15 Phenanthrene	178	7.432	7.432	0.000	94	185833	1.38	
16 Anthracene	178	7.485	7.485	0.000	88	25833	0.2039	
17 Fluoranthene	202	8.730	8.730	0.000	98	400607	2.97	
18 Pyrene	202	8.971	8.971	0.000	98	309423	2.42	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	96	141035	1.58	
20 Chrysene	228	10.252	10.252	0.000	90	178162	2.03	
21 Benzo[b]fluoranthene	252	11.257	11.269	-0.012	89	217318	2.66	
22 Benzo[k]fluoranthene	252	11.280	11.298	-0.018	93	89671	1.05	M
23 Benzo[a]pyrene	252	11.598	11.610	-0.012	96	118725	1.65	
24 Indeno[1,2,3-cd]pyrene	276	12.990	13.002	-0.012	81	64475	0.7953	
25 Dibenz(a,h)anthracene	278	13.014	13.037	-0.023	47	18970	0.2619	
26 Benzo[g,h,i]perylene	276	13.384	13.402	-0.018	82	56375	0.7720	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMK

Operator ID: RM

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Worklist Smp#: 27

Client ID: FM0350A-CS4"

Injection Vol: 2.0 ul

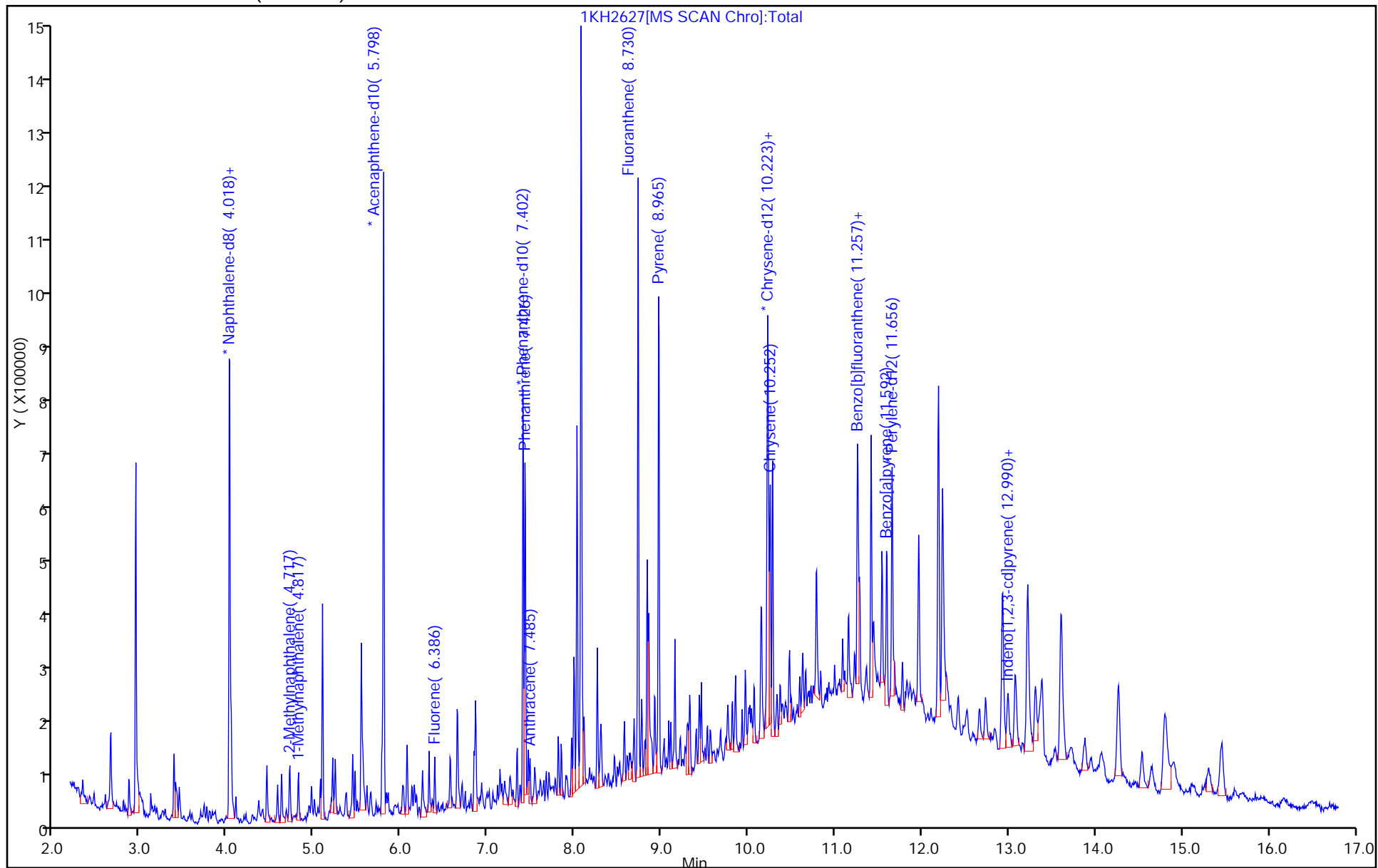
Dil. Factor: 10.0000

ALS Bottle#: 27

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

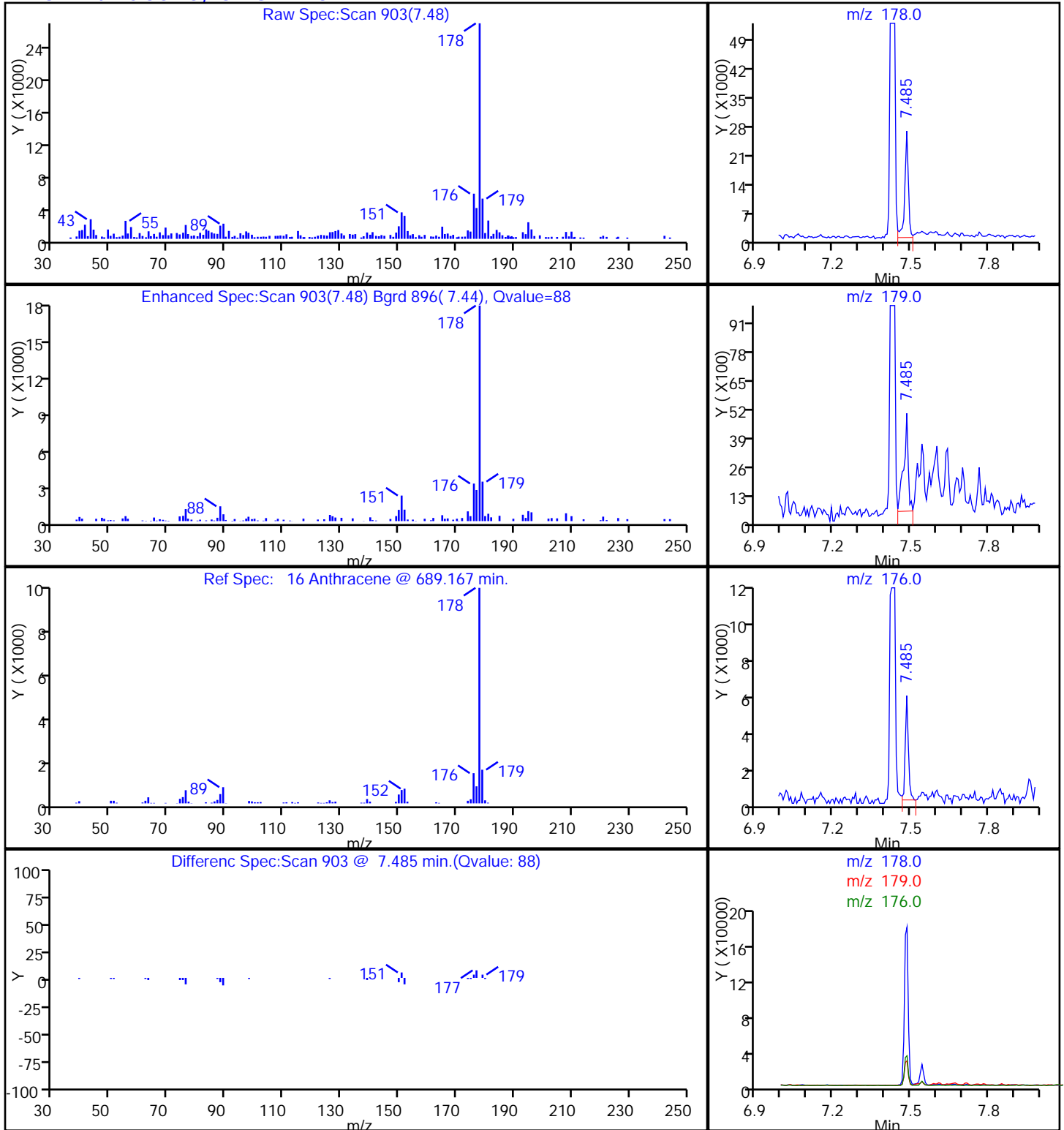
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

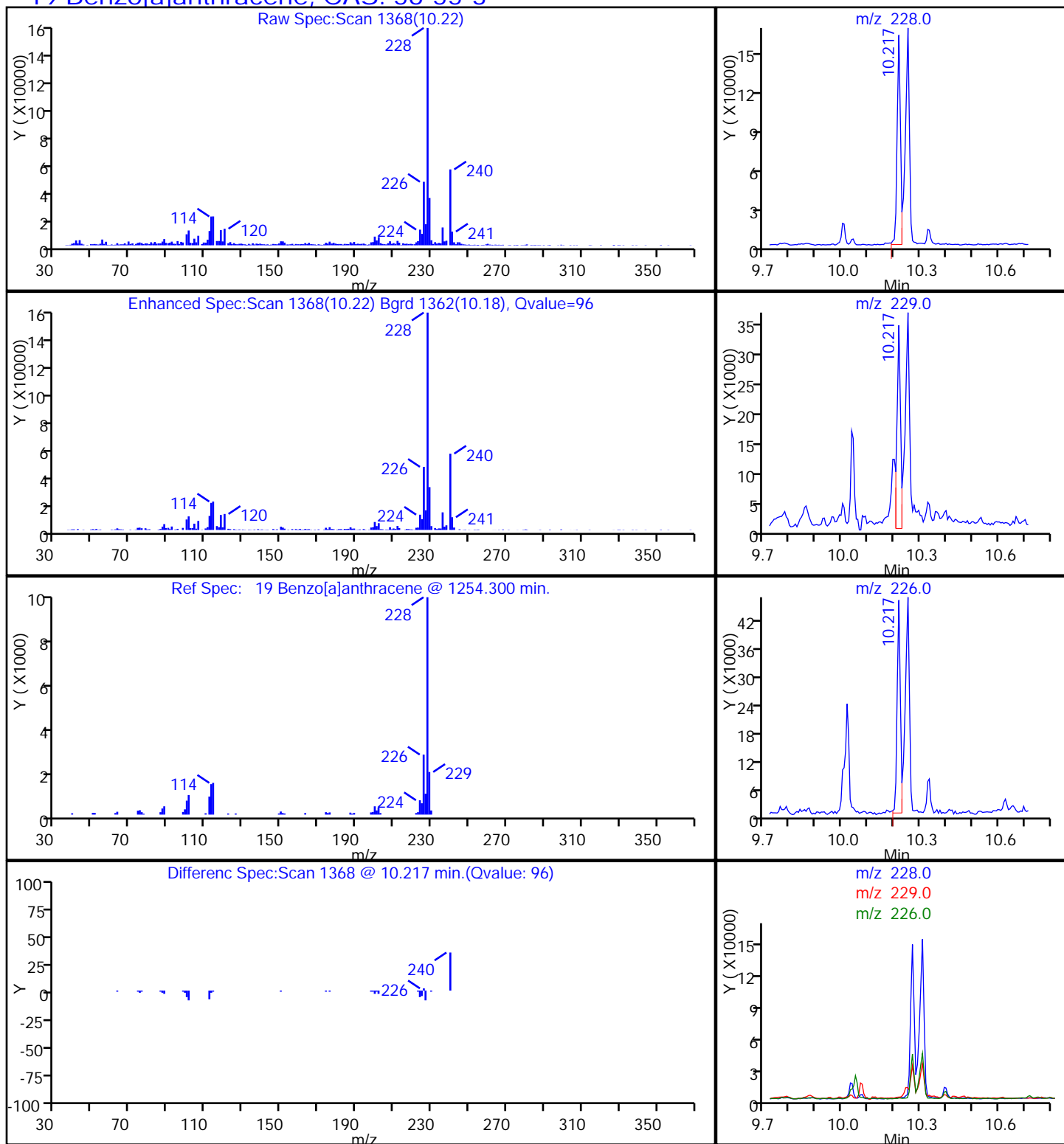
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

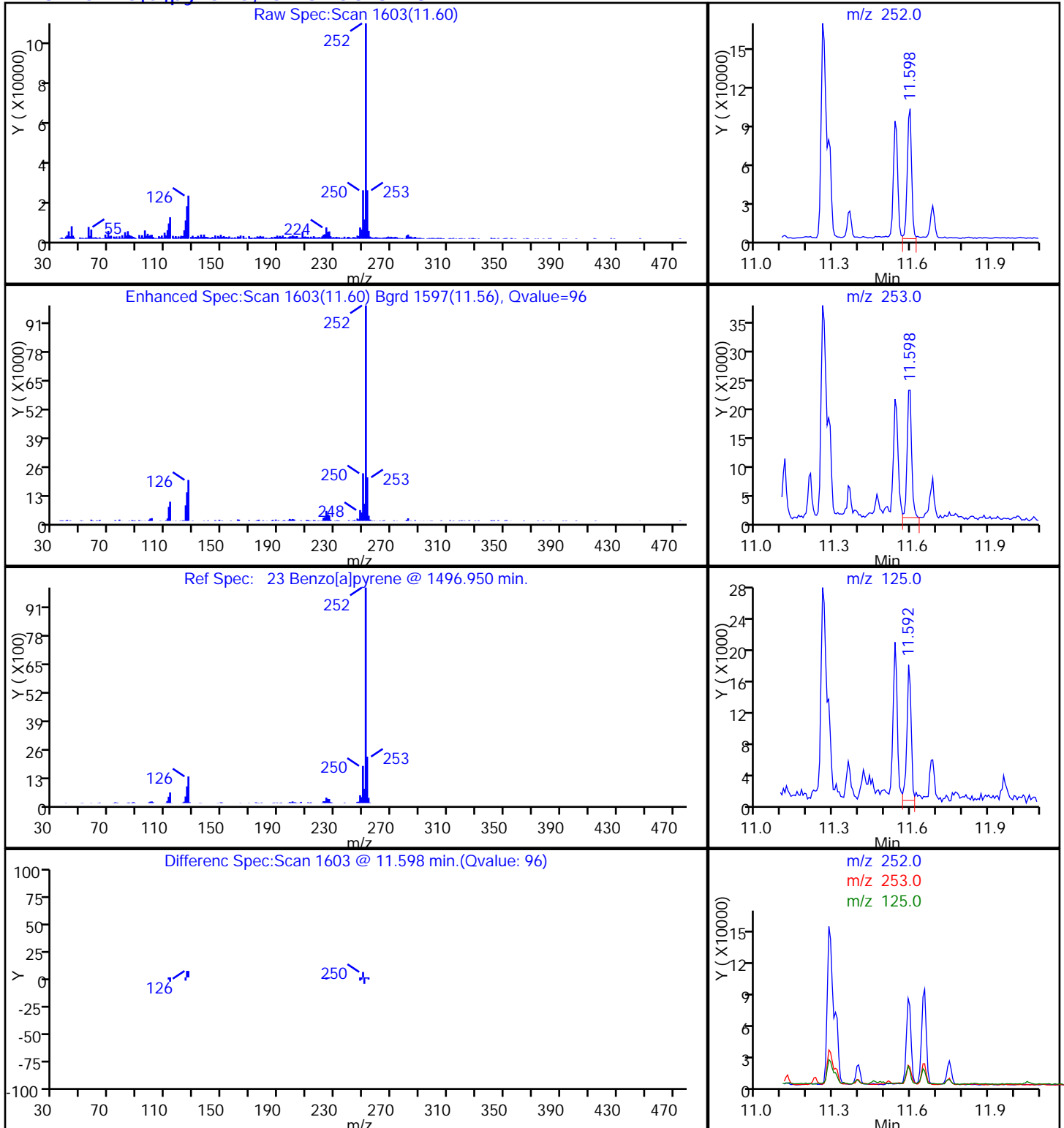
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

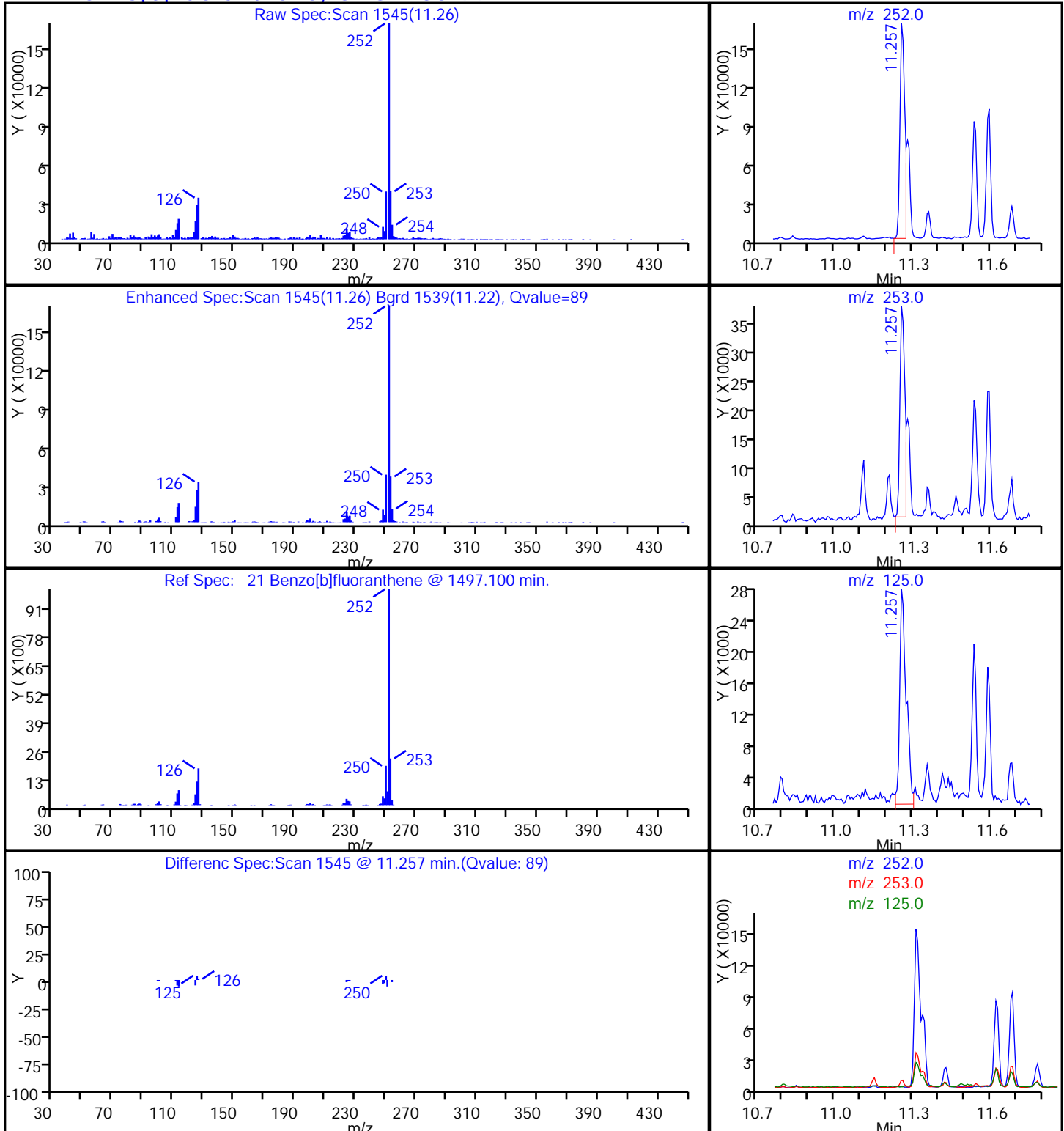
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

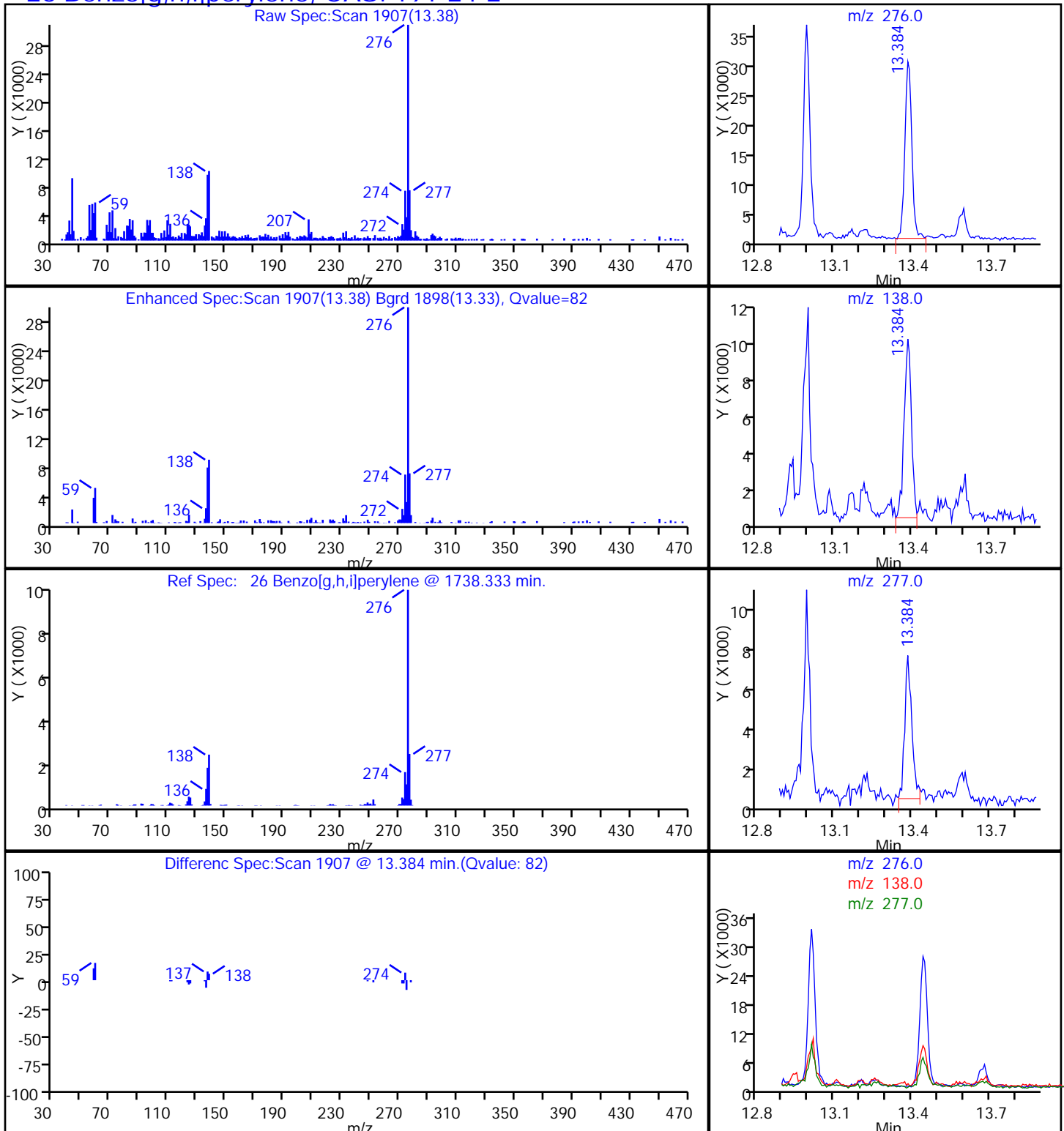
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

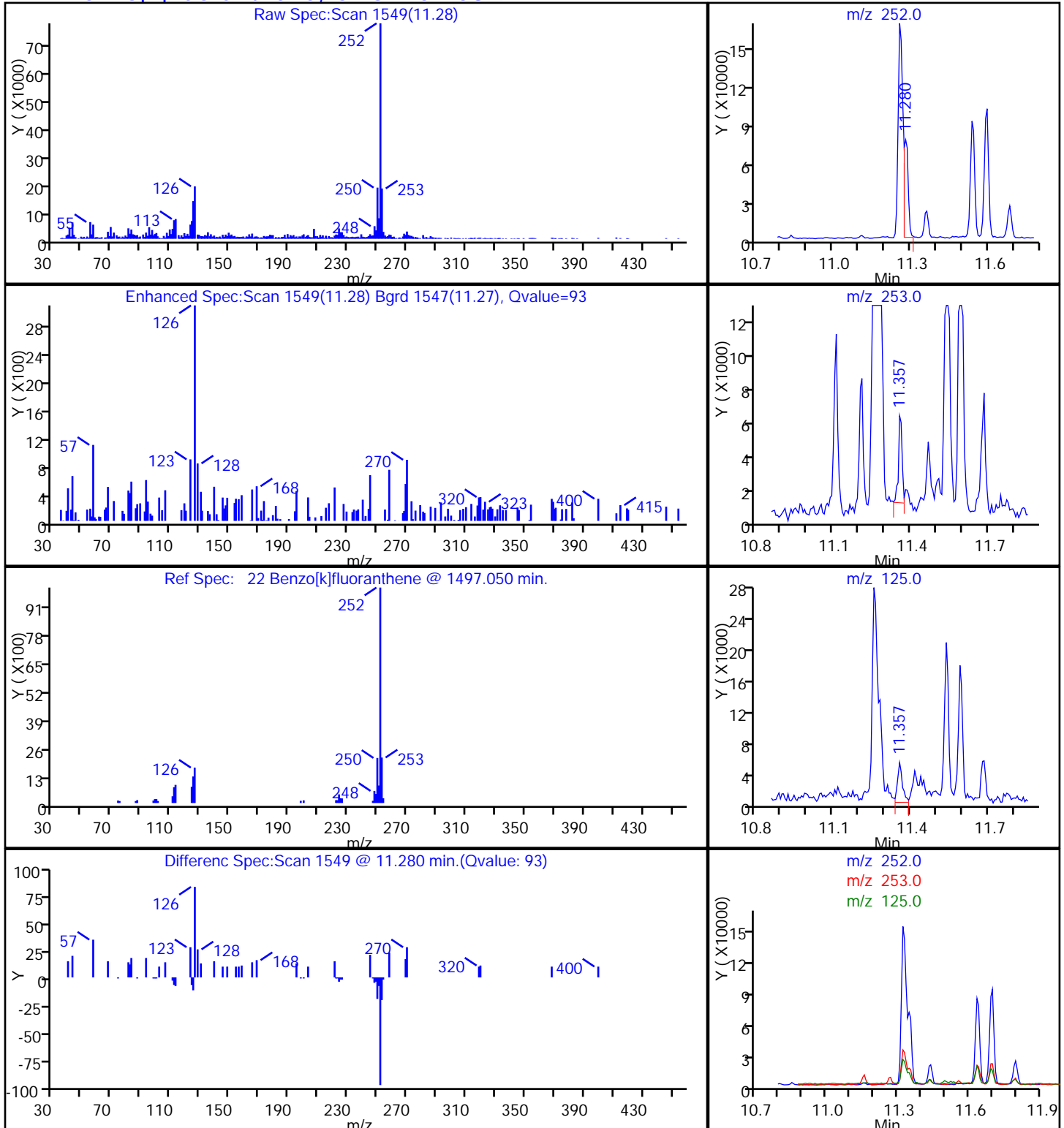
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

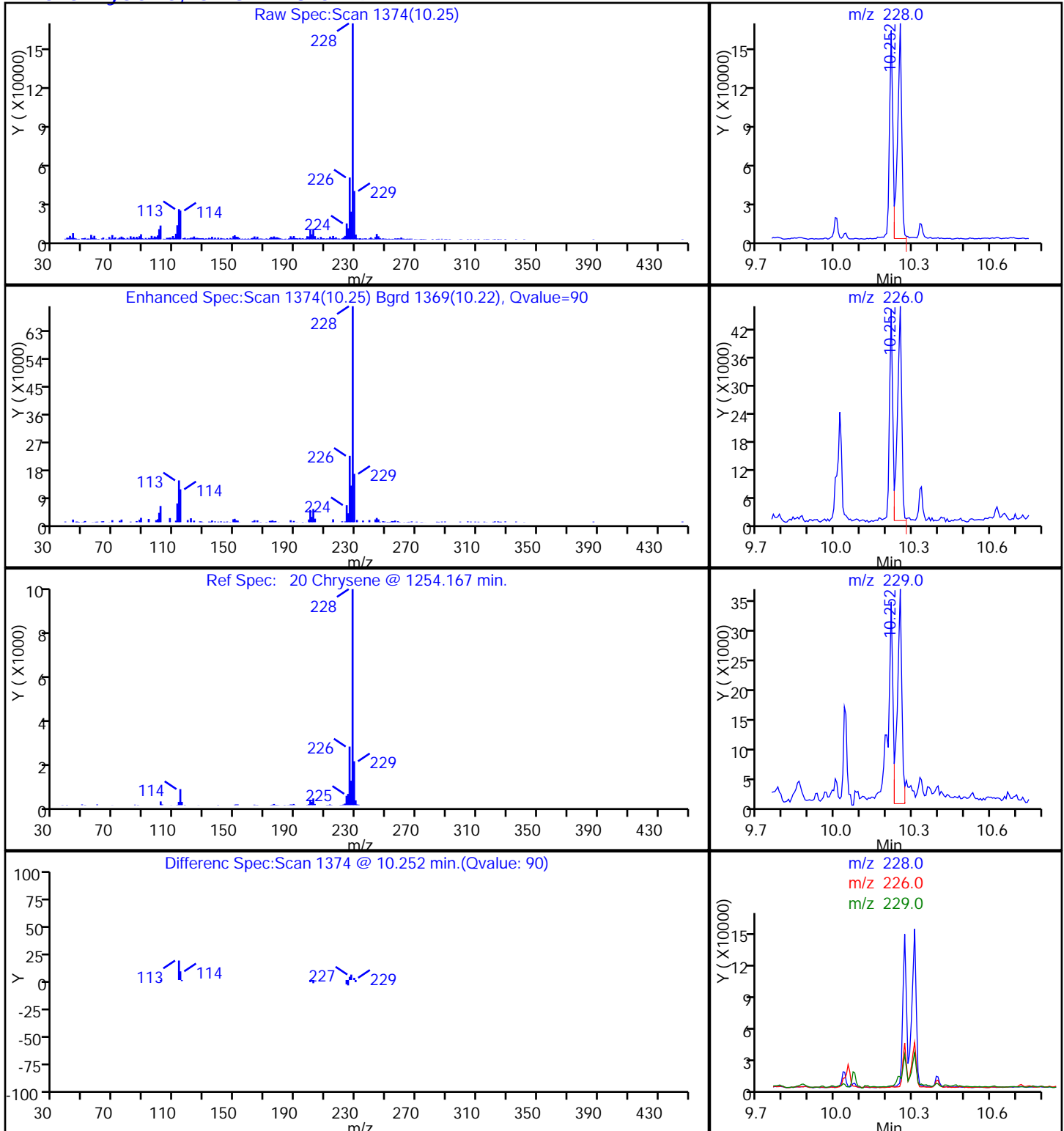
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

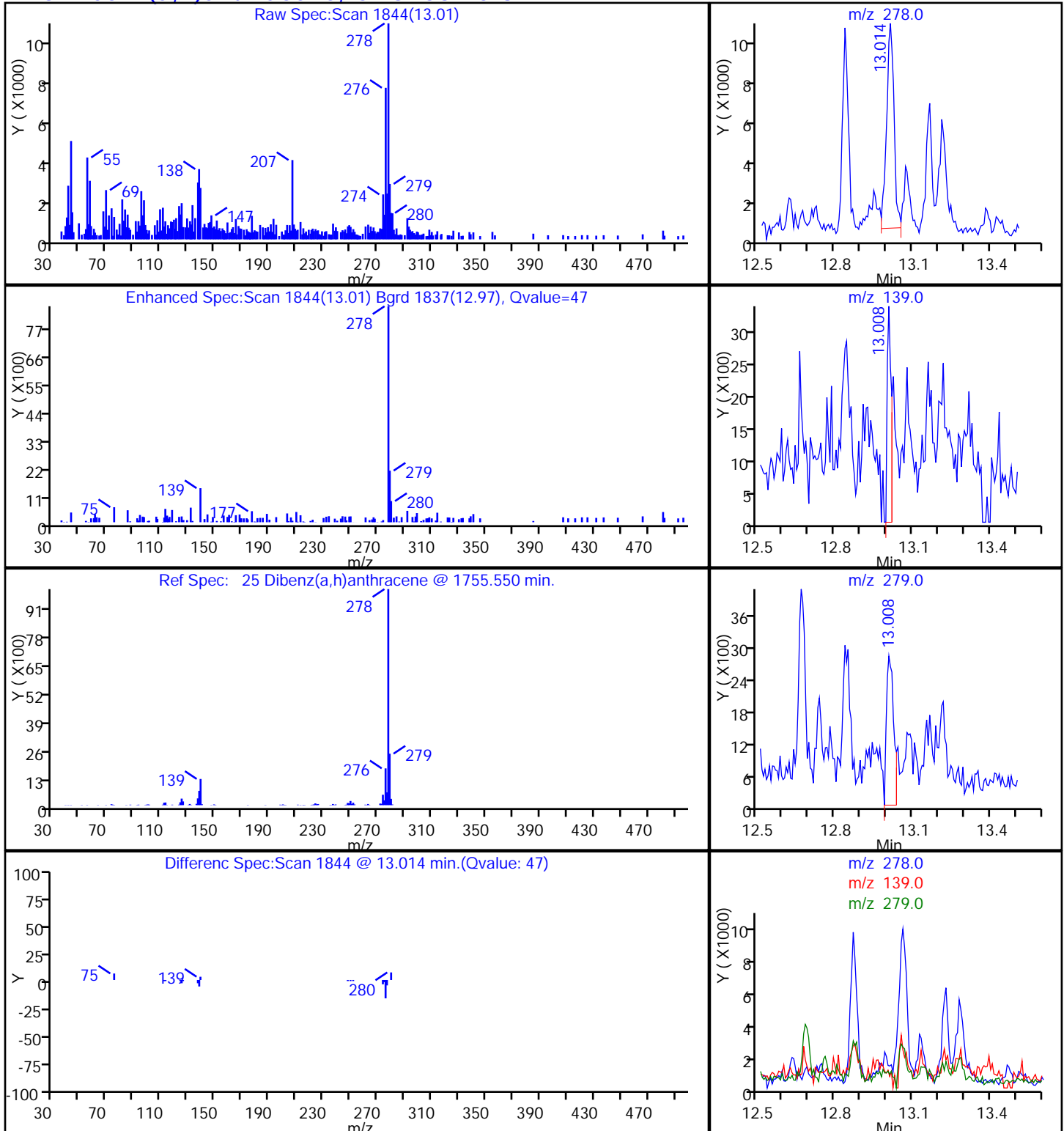
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

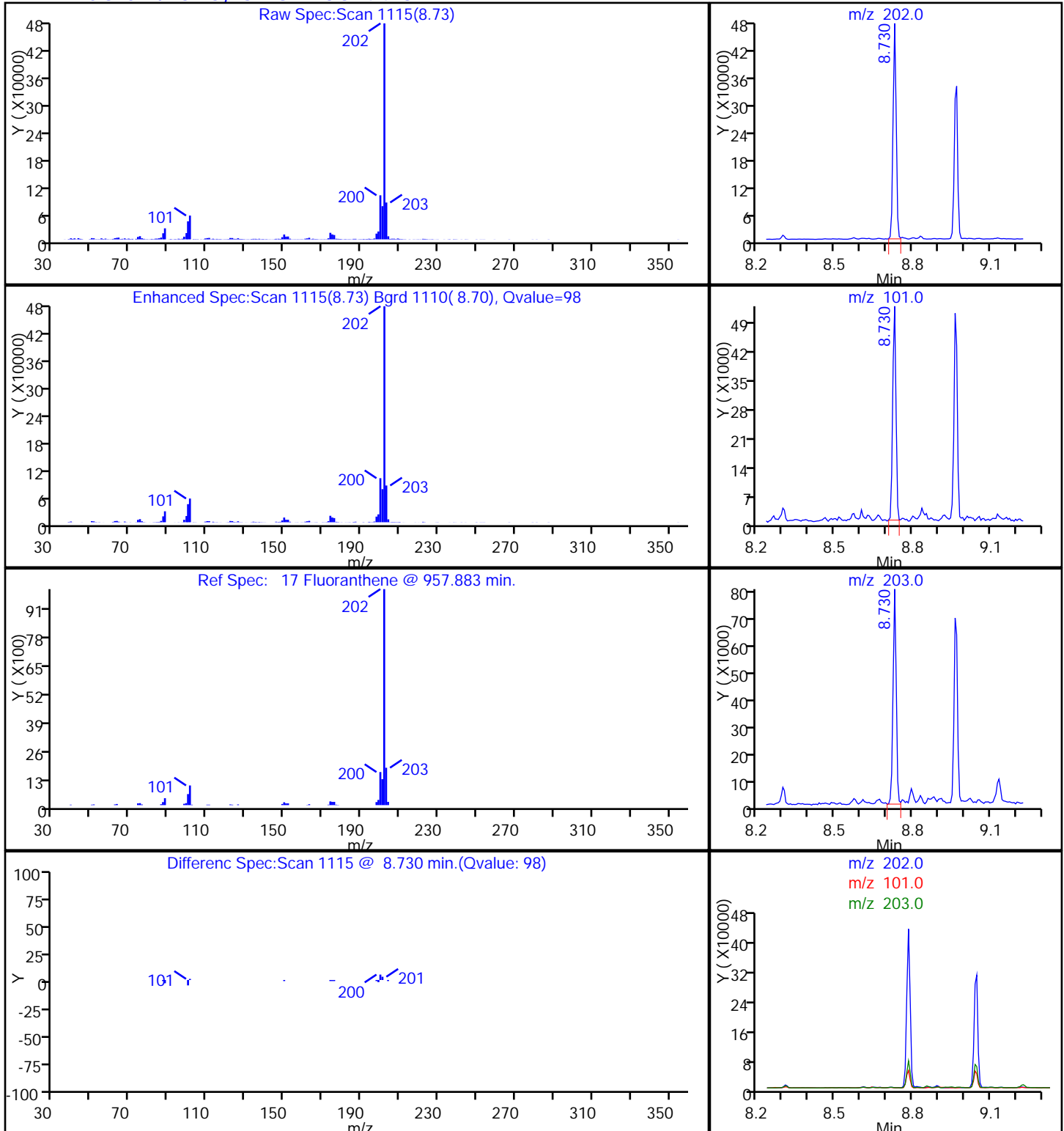
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

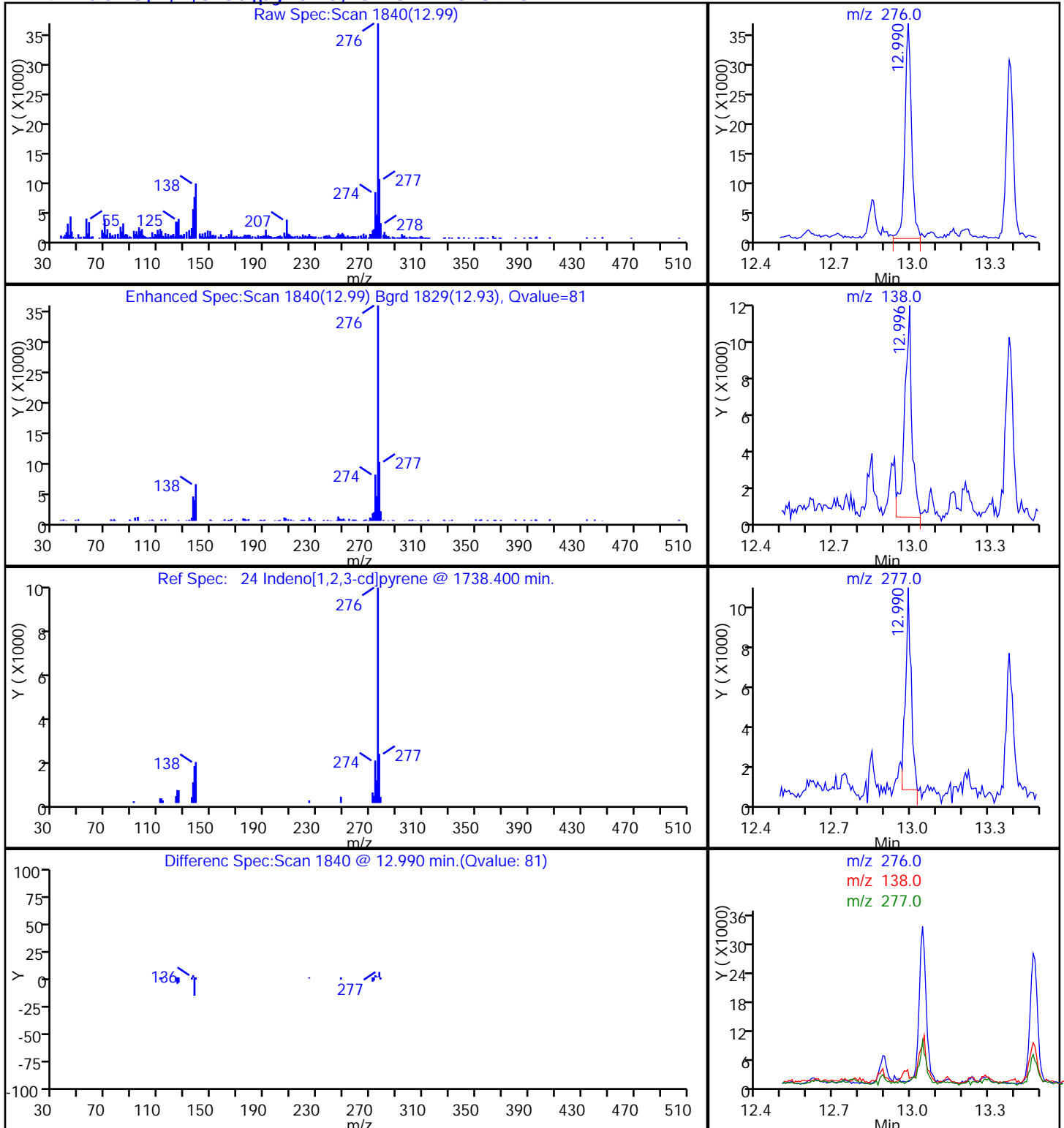
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

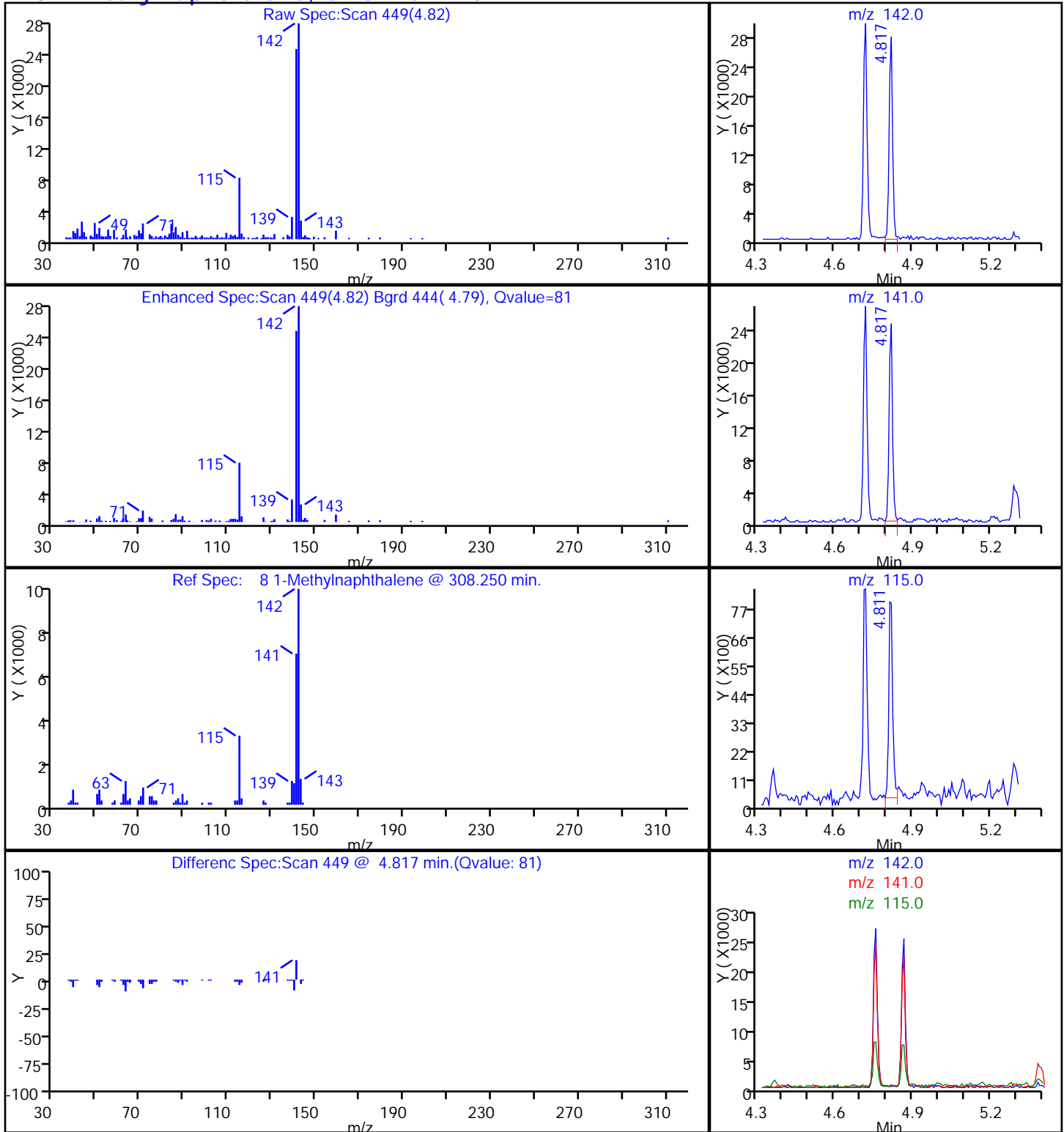
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

8 1-Methylnaphthalene, CAS: 90-12-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

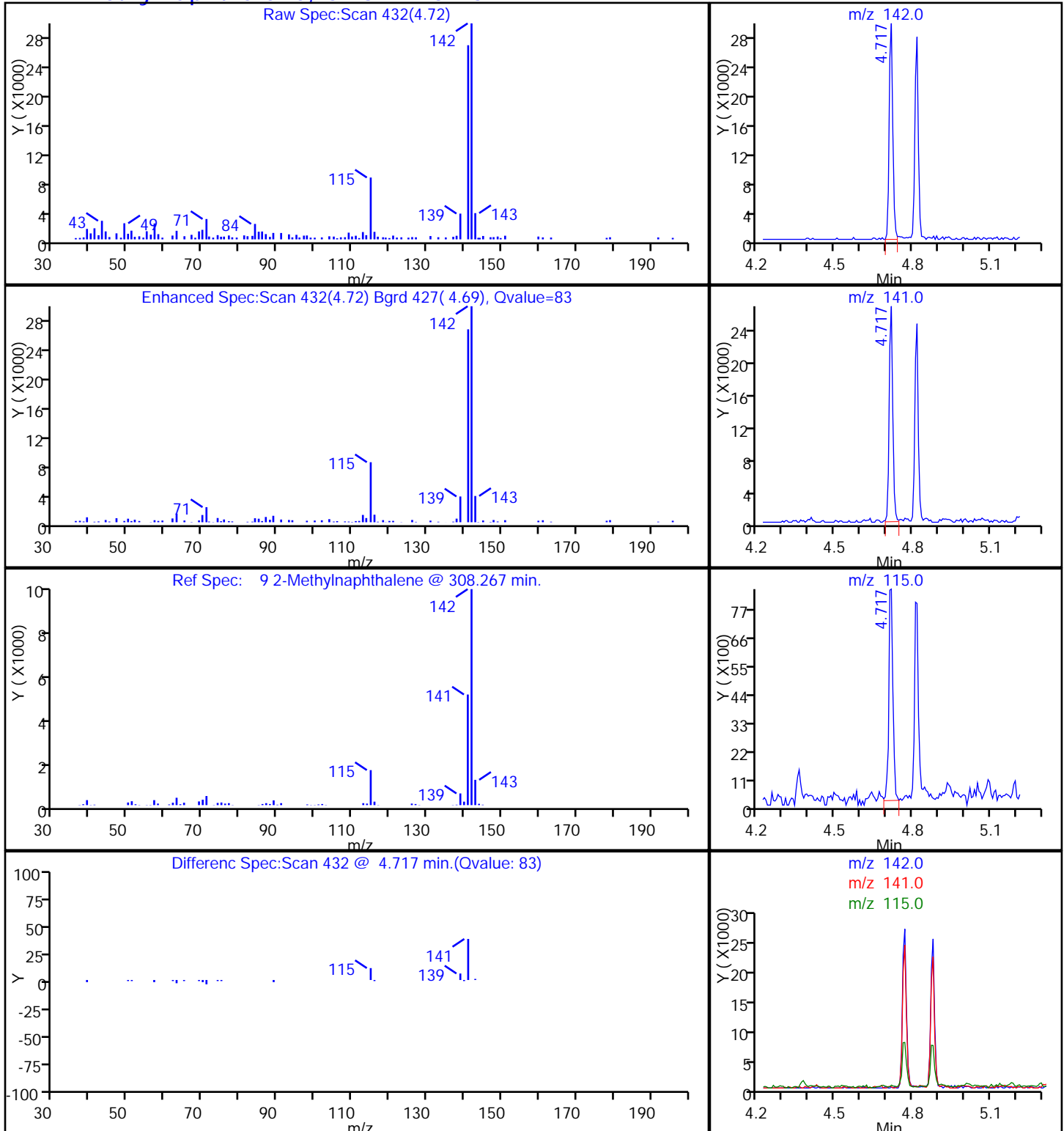
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

9 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

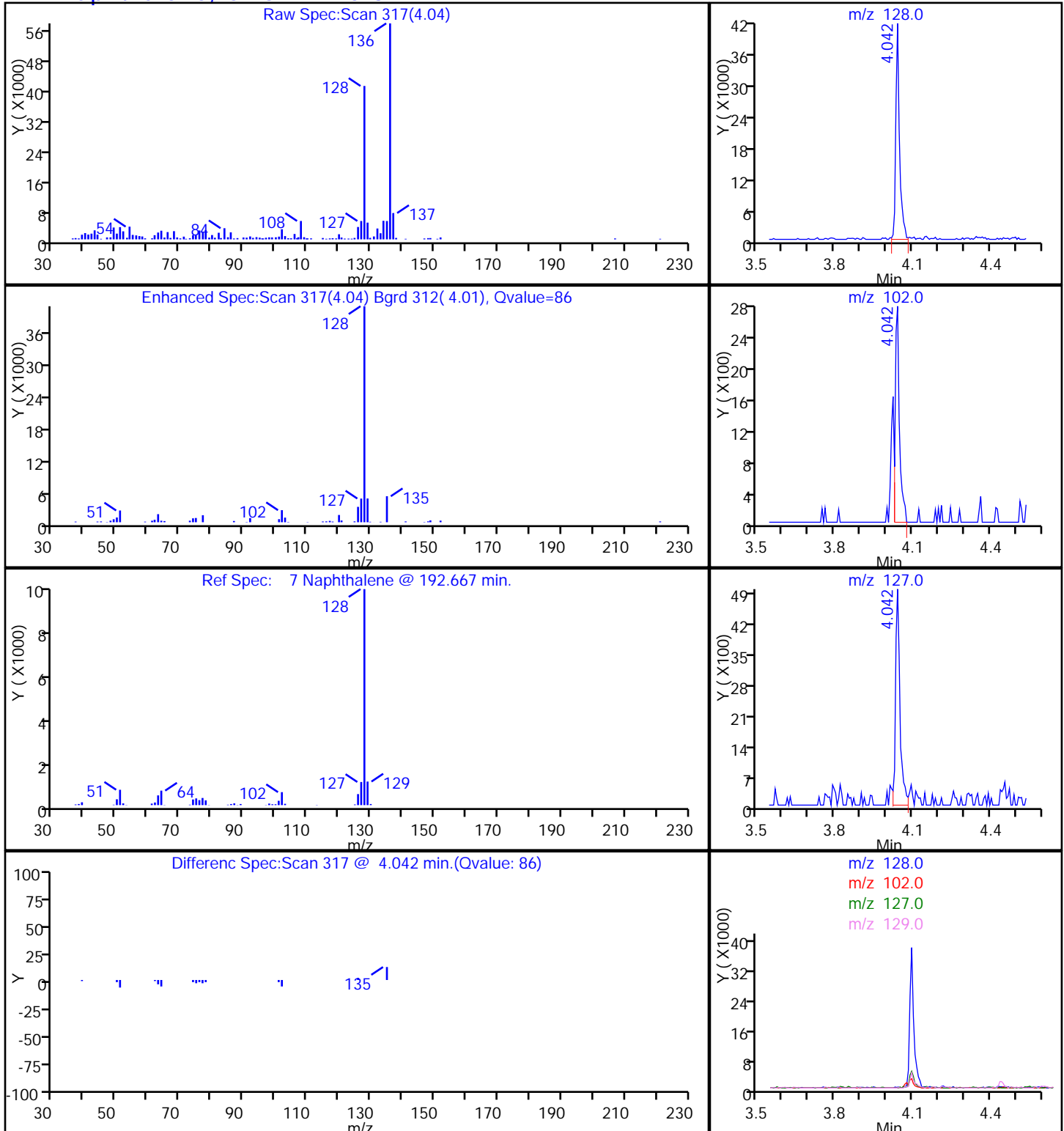
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

7 Naphthalene, CAS: 91-20-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

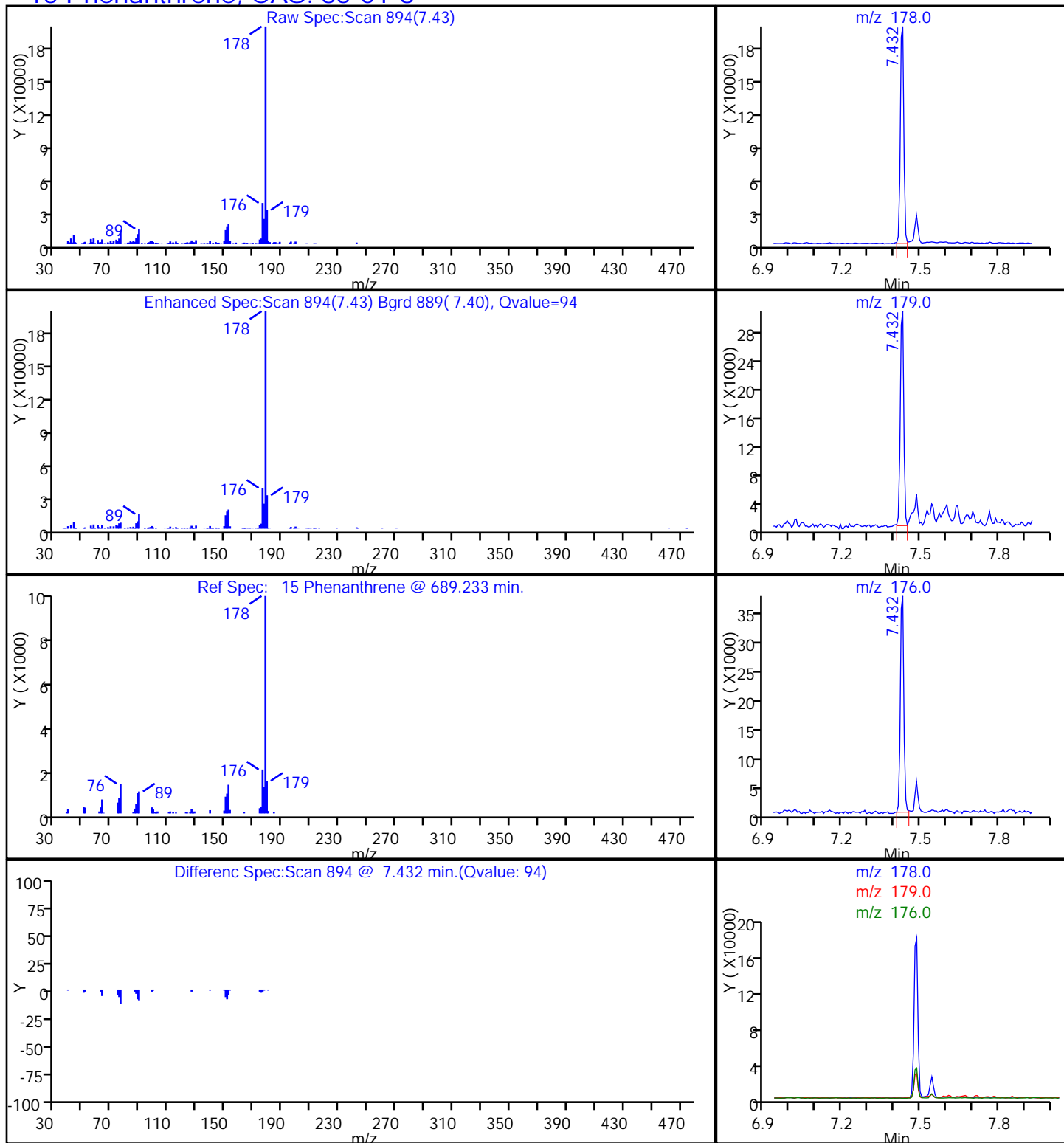
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D

Injection Date: 27-Aug-2014 00:12:30

Instrument ID: CMSK

Lims ID: 680-104534-A-14-A

Lab Sample ID: 680-104534-14

Client ID: FM0350A-CS4"

Operator ID: RM

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

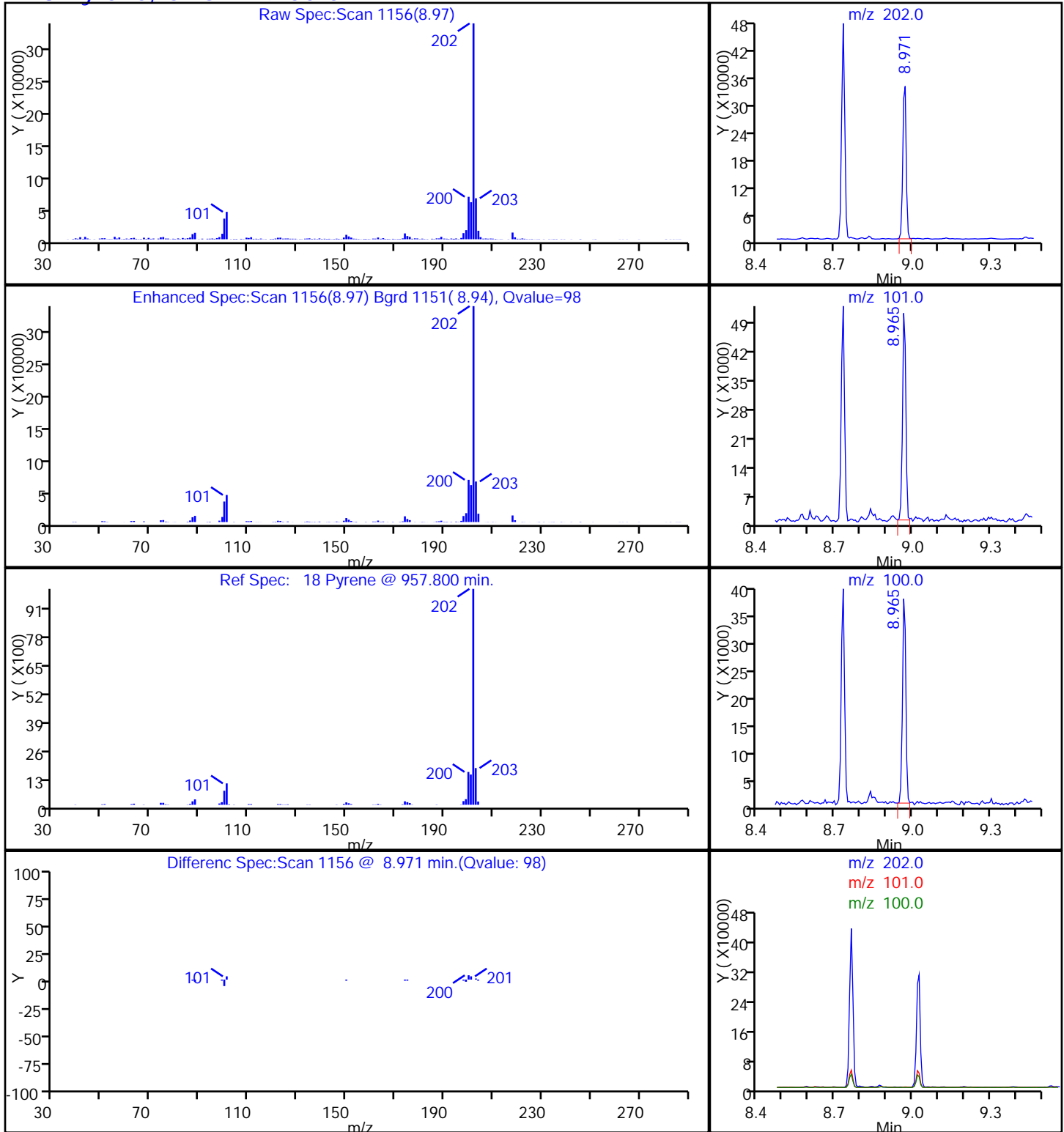
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



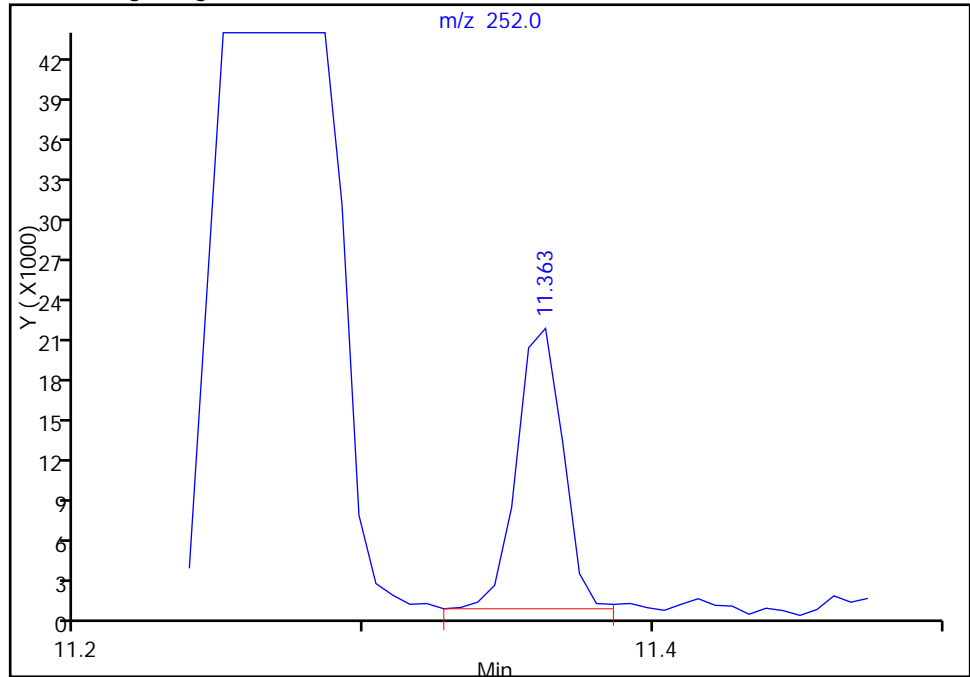
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2627.D		
Injection Date:	27-Aug-2014 00:12:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-14-A	Lab Sample ID:	680-104534-14
Client ID:	FM0350A-CS4"		
Operator ID:	RM	ALS Bottle#:	27
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270_LLPAH_CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	27

22 Benzo[k]fluoranthene, CAS: 207-08-9

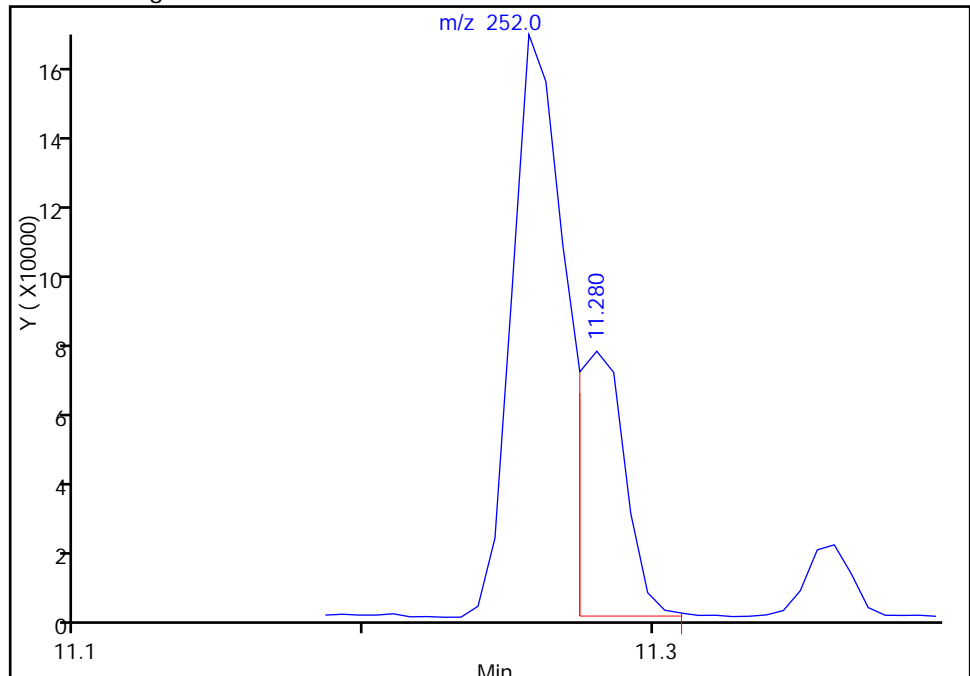
RT: 11.36
Response: 22910
Amount: 0.268945

Processing Integration Results



RT: 11.28
Response: 89671
Amount: 1.052665

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 11:40:17
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350B-CS4"</u>	Lab Sample ID: <u>680-104534-15</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2628.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.04(g)</u>	Date Analyzed: <u>08/27/2014 00:35</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>10.8</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	100		75	37
208-96-8	Acenaphthylene	75	U	75	37
120-12-7	Anthracene	200		75	37
56-55-3	Benzo[a]anthracene	890		75	37
50-32-8	Benzo[a]pyrene	900		75	13
205-99-2	Benzo[b]fluoranthene	1500		75	37
191-24-2	Benzo[g,h,i]perylene	410		75	37
207-08-9	Benzo[k]fluoranthene	510		75	22
218-01-9	Chrysene	1100		75	37
53-70-3	Dibenz(a,h)anthracene	120		75	37
206-44-0	Fluoranthene	1700		75	37
86-73-7	Fluorene	76		75	37
193-39-5	Indeno[1,2,3-cd]pyrene	430		75	37
90-12-0	1-Methylnaphthalene	120		75	35
91-57-6	2-Methylnaphthalene	150		75	37
91-20-3	Naphthalene	120		75	37
85-01-8	Phenanthrene	1100		75	27
129-00-0	Pyrene	1400		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D
 Lims ID: 680-104534-A-15-A Lab Sample ID: 680-104534-15
 Client ID: FM0350B-CS4"
 Sample Type: Client
 Inject. Date: 27-Aug-2014 00:35:30 ALS Bottle#: 28 Worklist Smp#: 28
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-15-A
 Misc. Info.: 680-0012269-028
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 11:43:19

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.024	4.024	0.000	98	519483	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	90	267882	2.00	
* 3 Phenanthrene-d10	188	7.403	7.408	-0.005	97	346068	2.00	
* 4 Chrysene-d12	240	10.229	10.229	0.000	98	257341	2.00	
* 5 Perylene-d12	264	11.662	11.668	-0.006	96	211342	2.00	
7 Naphthalene	128	4.042	4.042	0.000	94	74293	0.3149	
9 2-Methylnaphthalene	142	4.717	4.717	0.000	83	55786	0.3953	
8 1-Methylnaphthalene	142	4.817	4.817	0.000	81	45850	0.3288	
11 Acenaphthylene	152	5.646	5.646	0.000	93	8405	0.0412	7
12 Acenaphthene	153	5.834	5.834	0.000	85	36716	0.2709	
14 Fluorene	166	6.386	6.386	0.000	80	25267	0.2023	
15 Phenanthrene	178	7.432	7.432	0.000	95	471042	2.87	
16 Anthracene	178	7.485	7.485	0.000	98	84662	0.5463	
17 Fluoranthene	202	8.730	8.730	0.000	98	765998	4.65	
18 Pyrene	202	8.971	8.971	0.000	95	605085	3.69	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	99	273643	2.38	
20 Chrysene	228	10.252	10.252	0.000	91	328906	2.92	
21 Benzo[b]fluoranthene	252	11.263	11.269	-0.006	97	410484	3.92	
22 Benzo[k]fluoranthene	252	11.286	11.298	-0.012	94	150238	1.38	M
23 Benzo[a]pyrene	252	11.598	11.610	-0.012	95	222214	2.40	
24 Indeno[1,2,3-cd]pyrene	276	12.996	13.002	-0.006	75	120701	1.16	
25 Dibenzo(a,h)anthracene	278	13.020	13.037	-0.017	66	30129	0.3243	
26 Benzo[g,h,i]perylene	276	13.390	13.402	-0.012	86	103248	1.10	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 28-Aug-2014 15:21:20

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Worklist Smp#: 28

Client ID: FM0350B-CS4"

Injection Vol: 2.0 ul

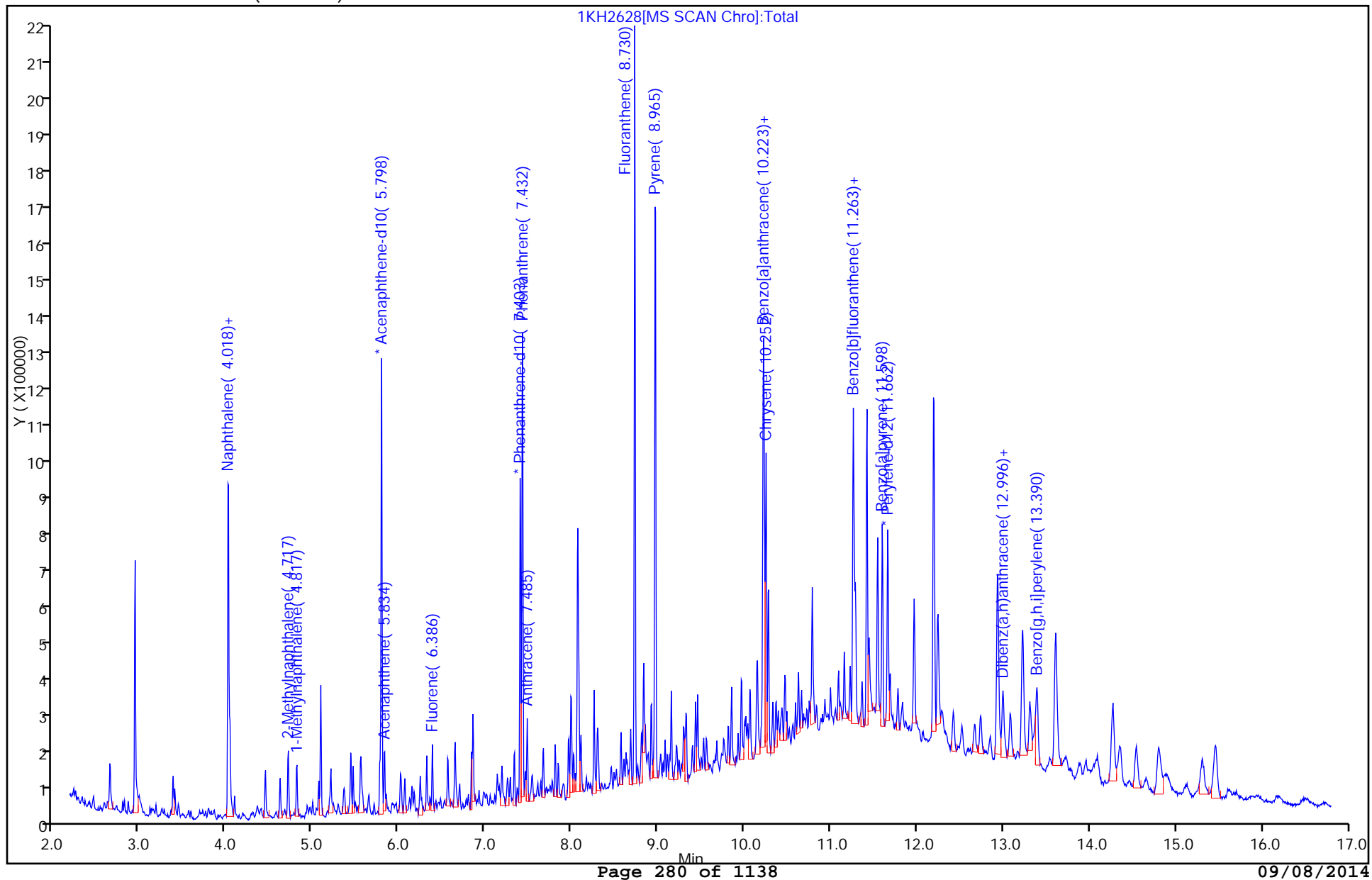
Dil. Factor: 10.0000

ALS Bottle#: 28

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

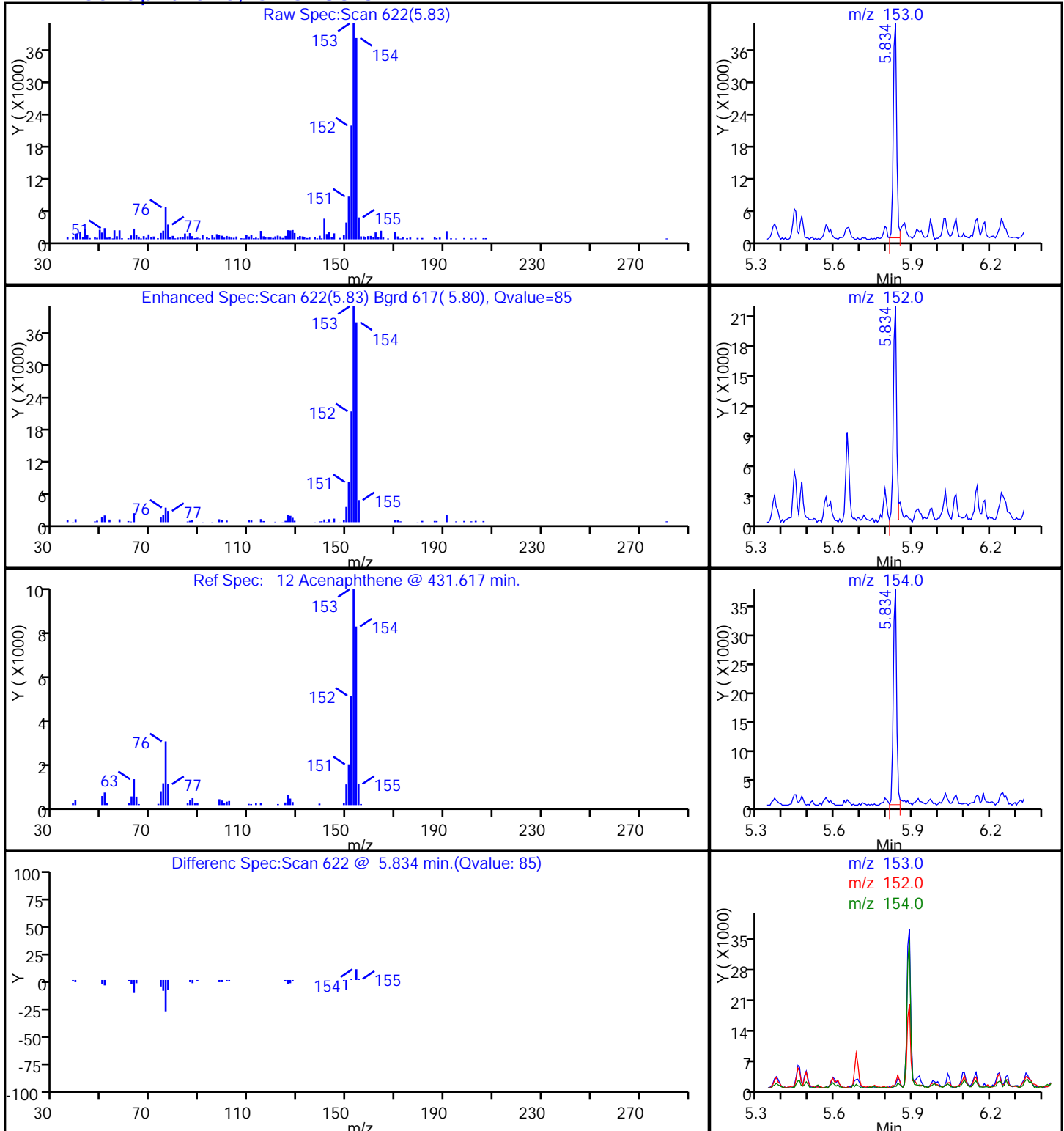
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

12 Acenaphthene, CAS: 83-32-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

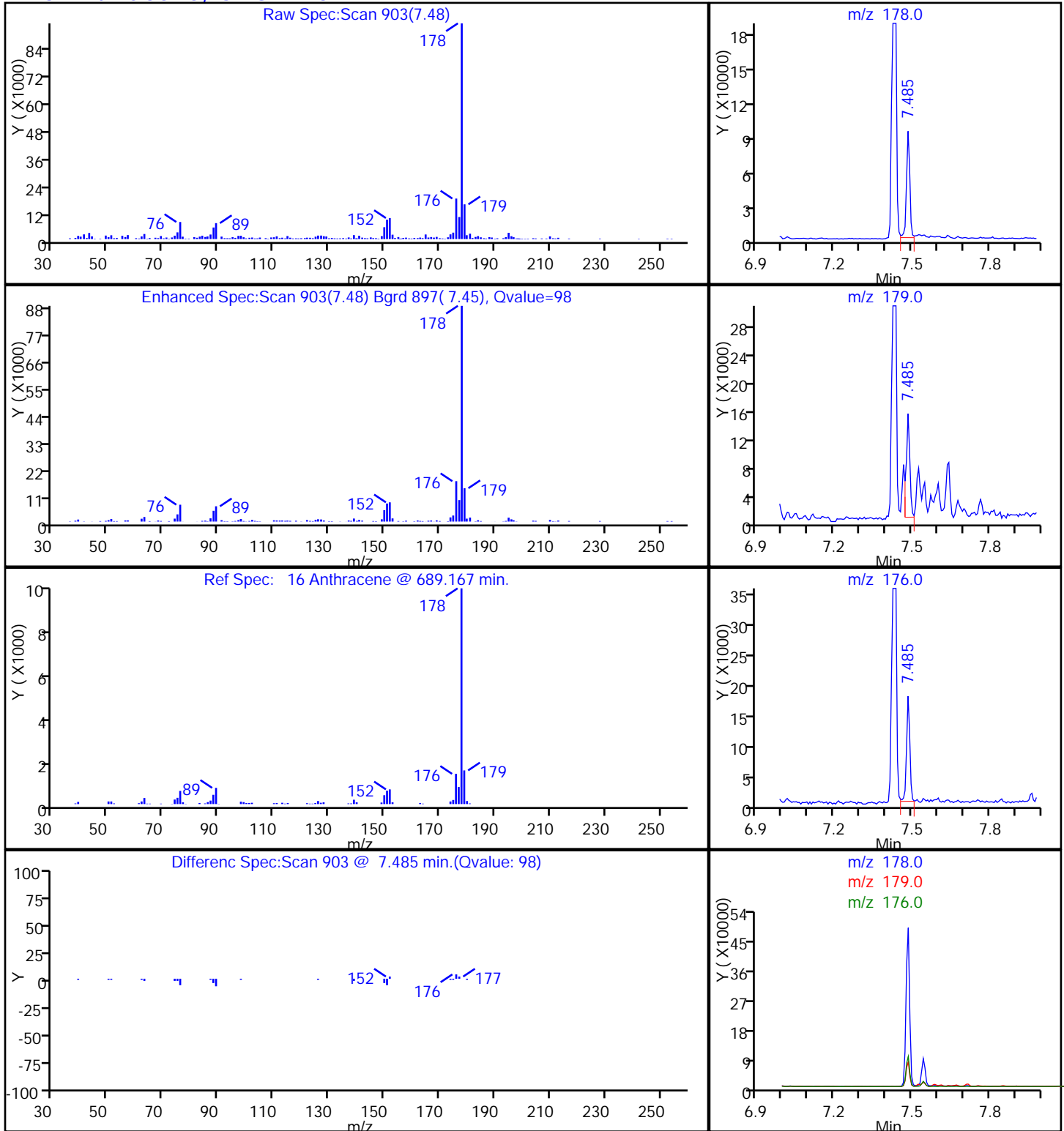
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

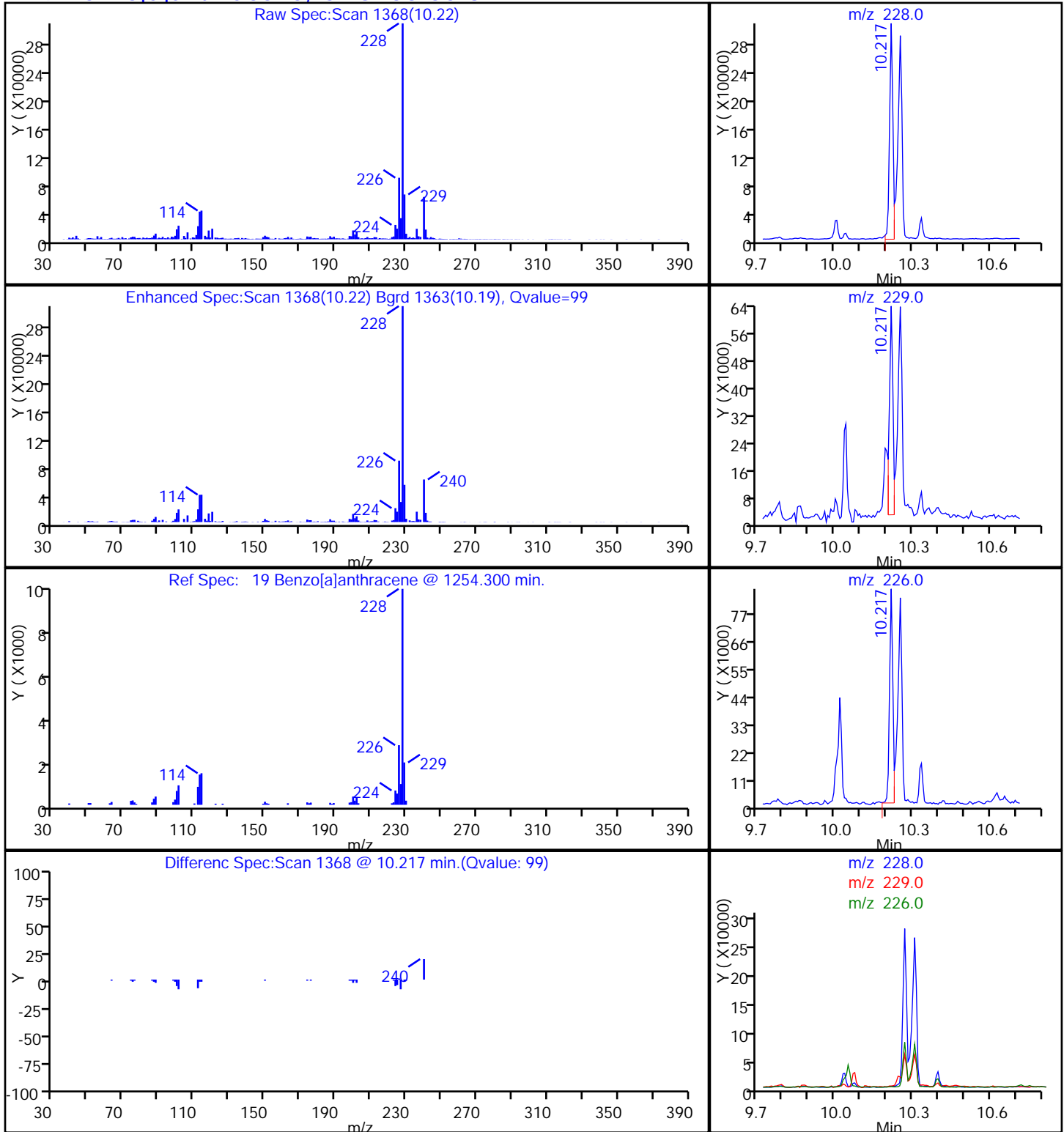
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

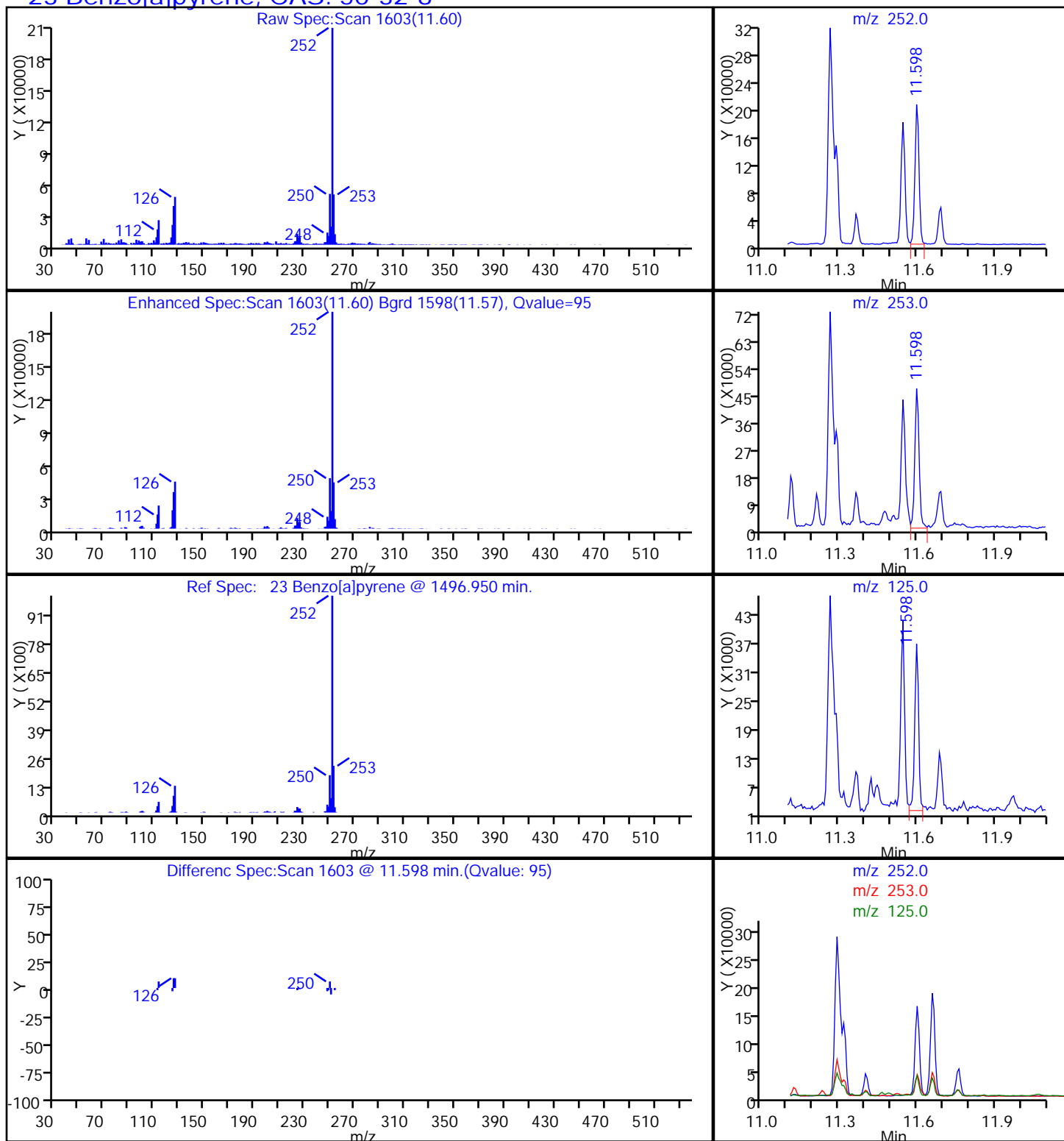
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

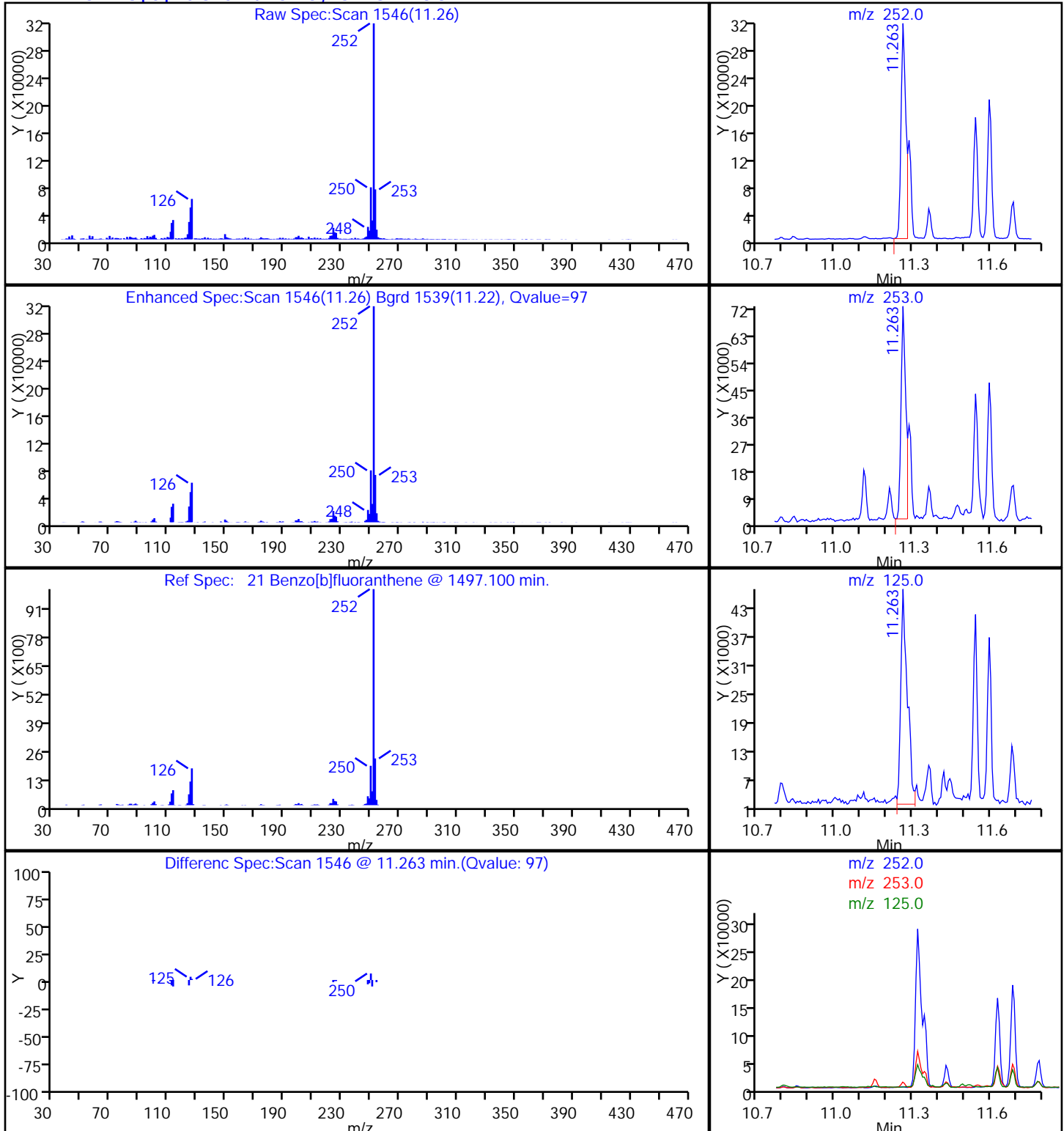
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

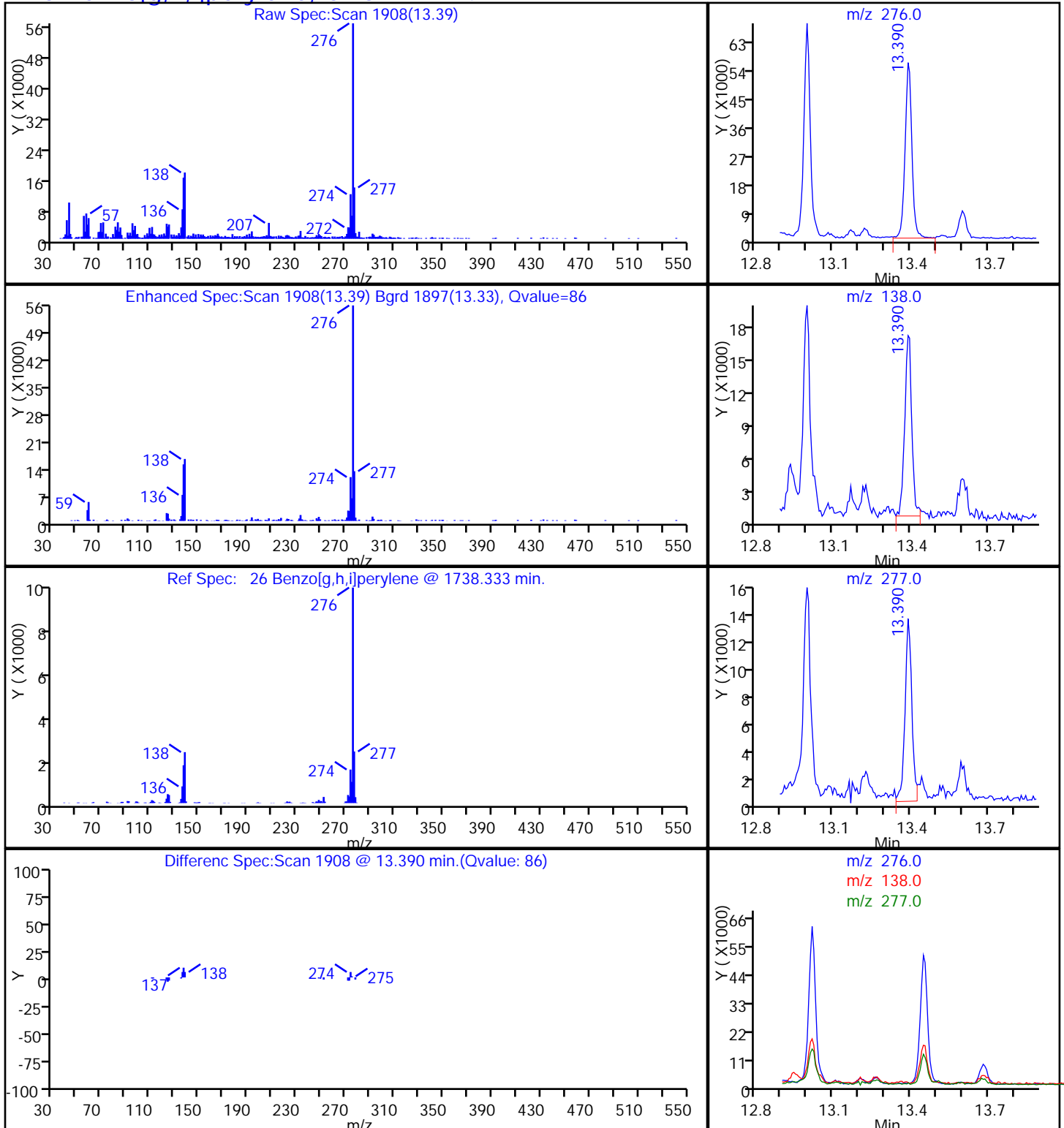
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

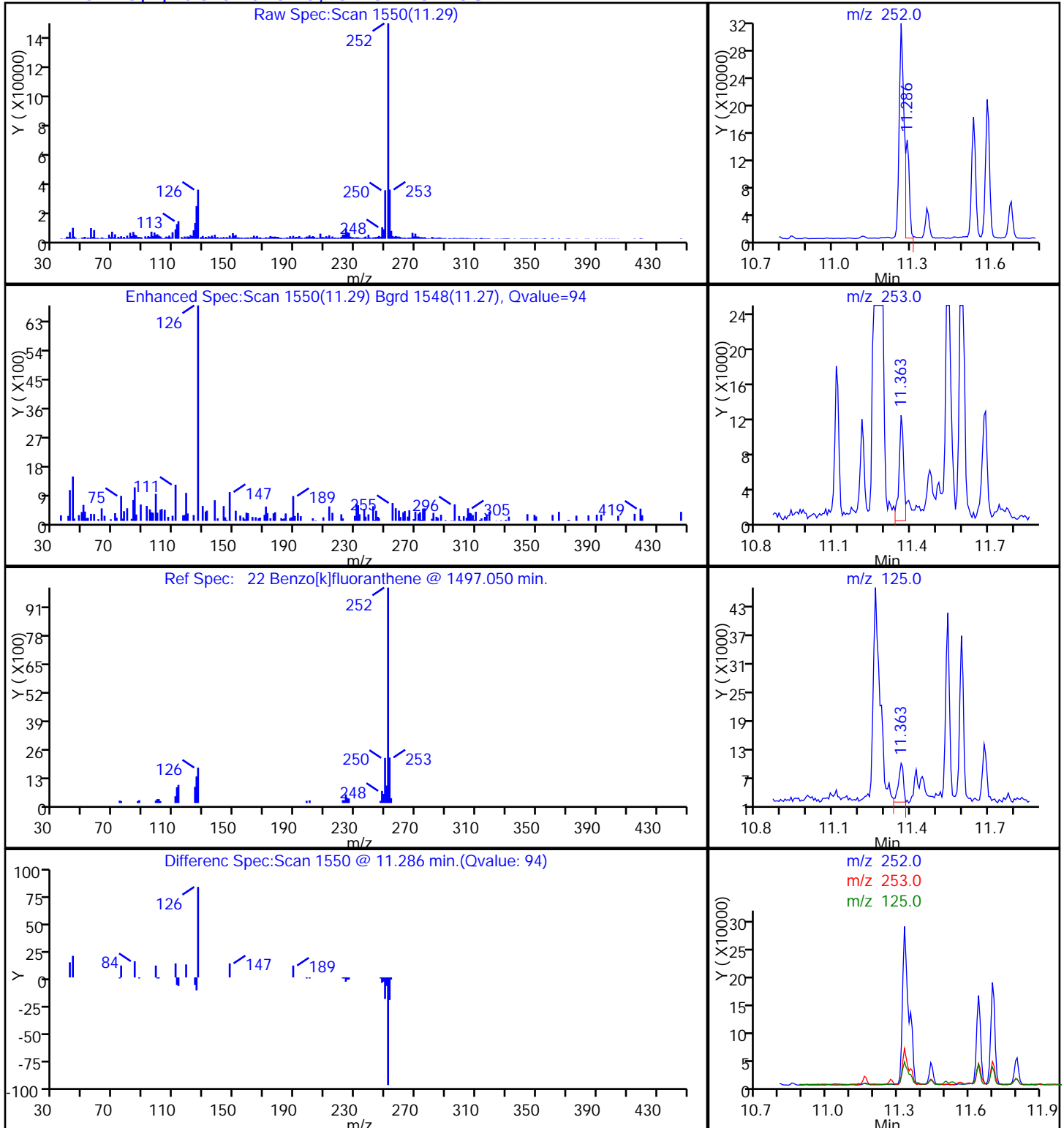
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

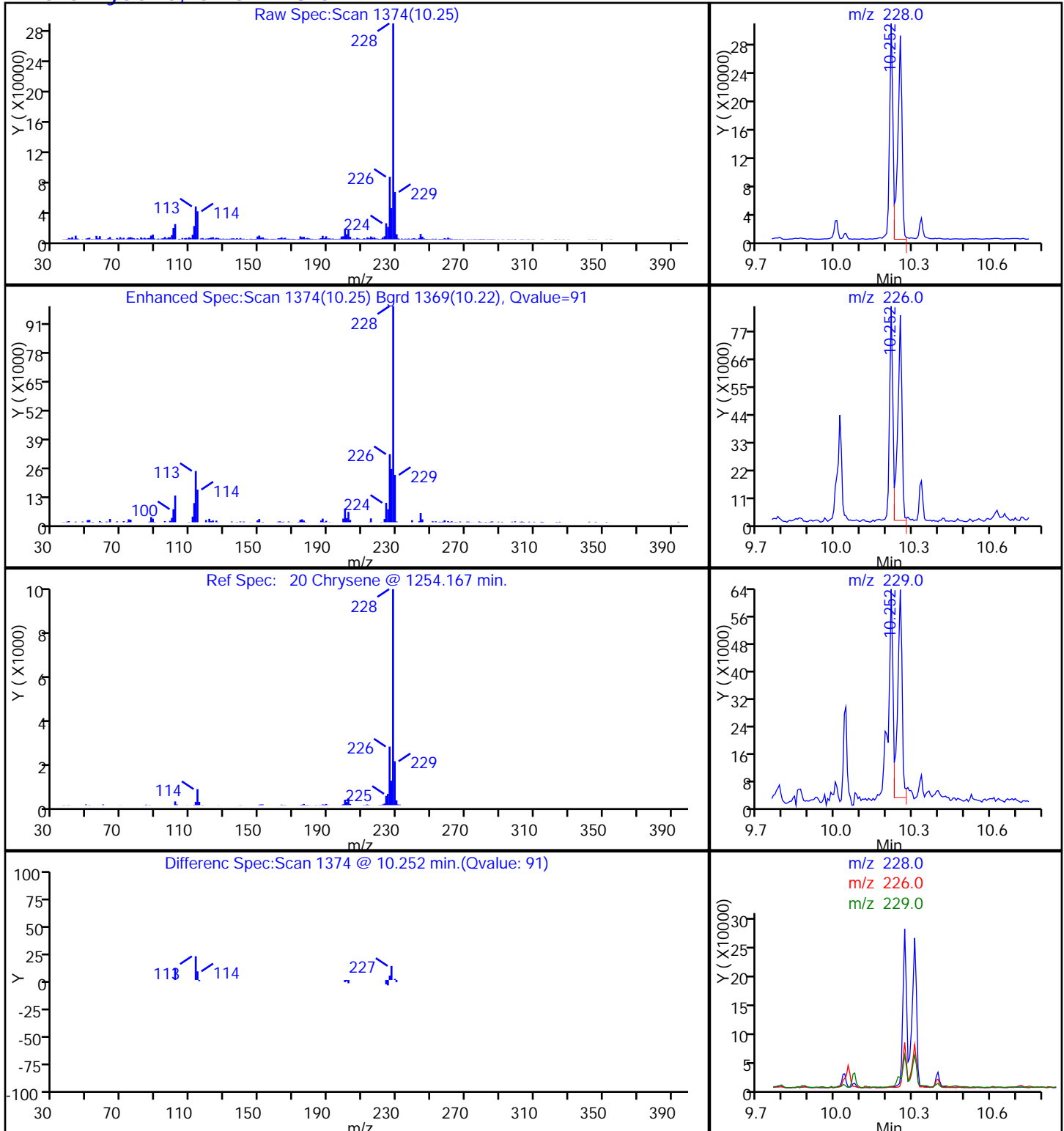
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

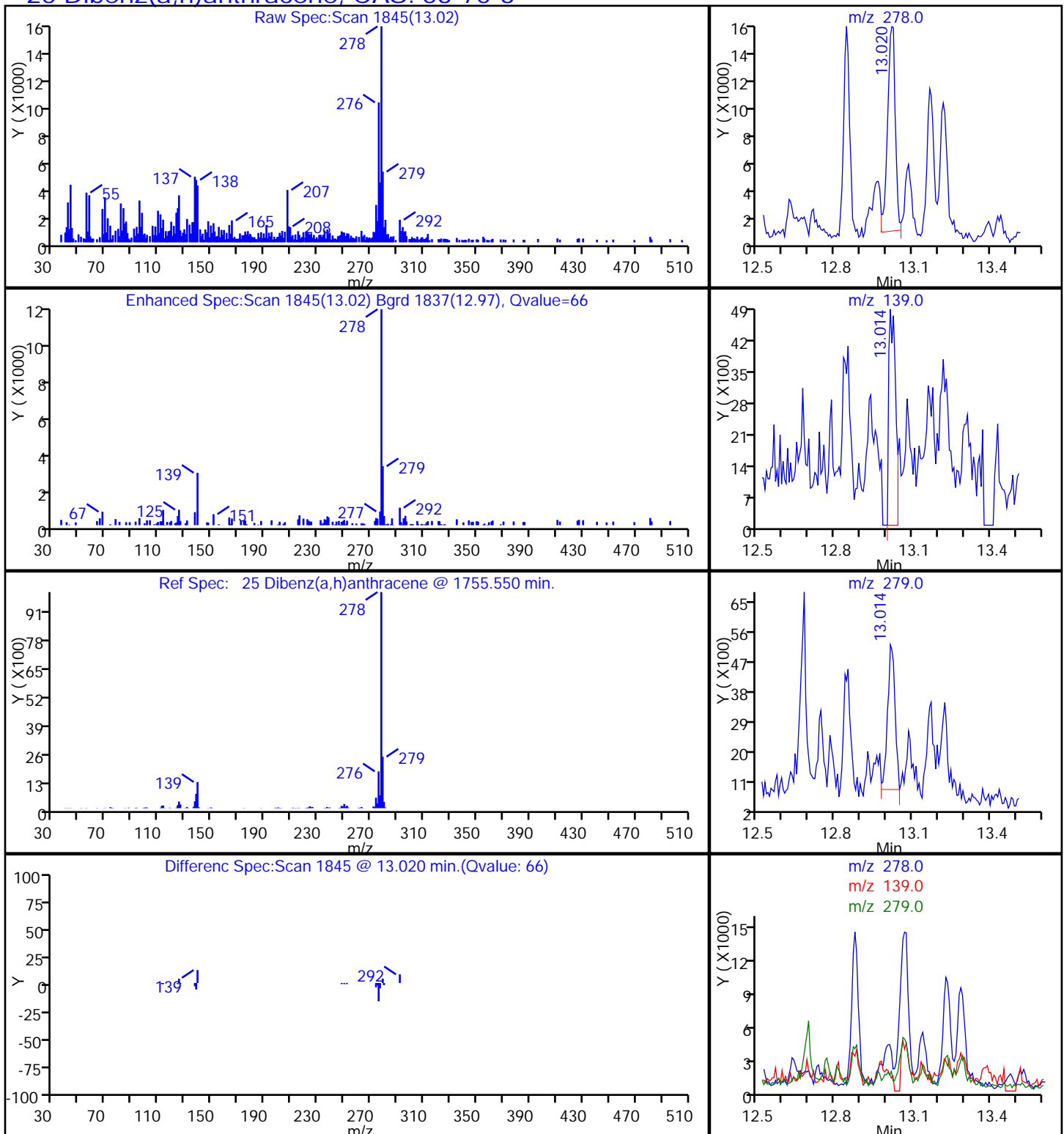
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

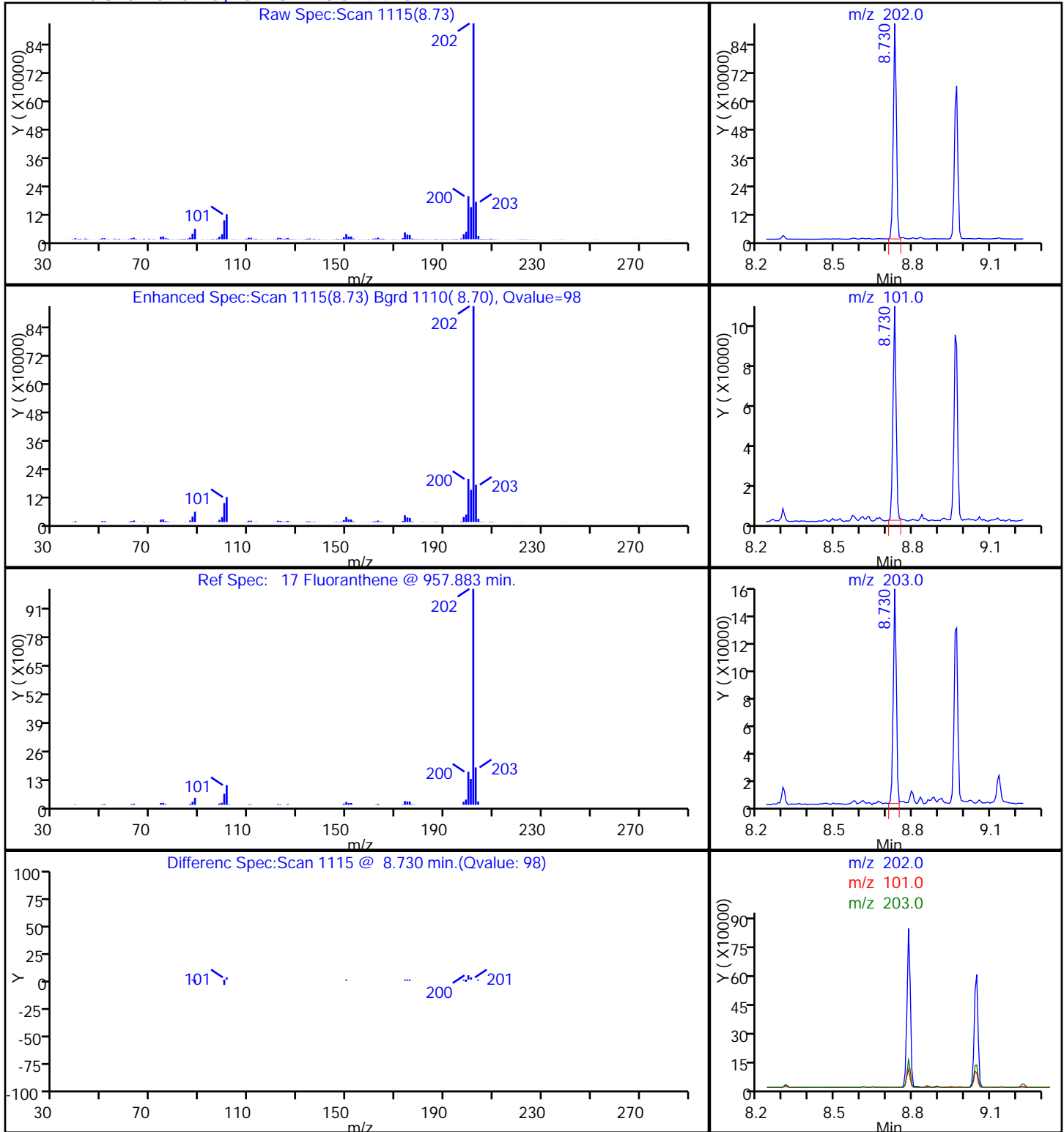
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

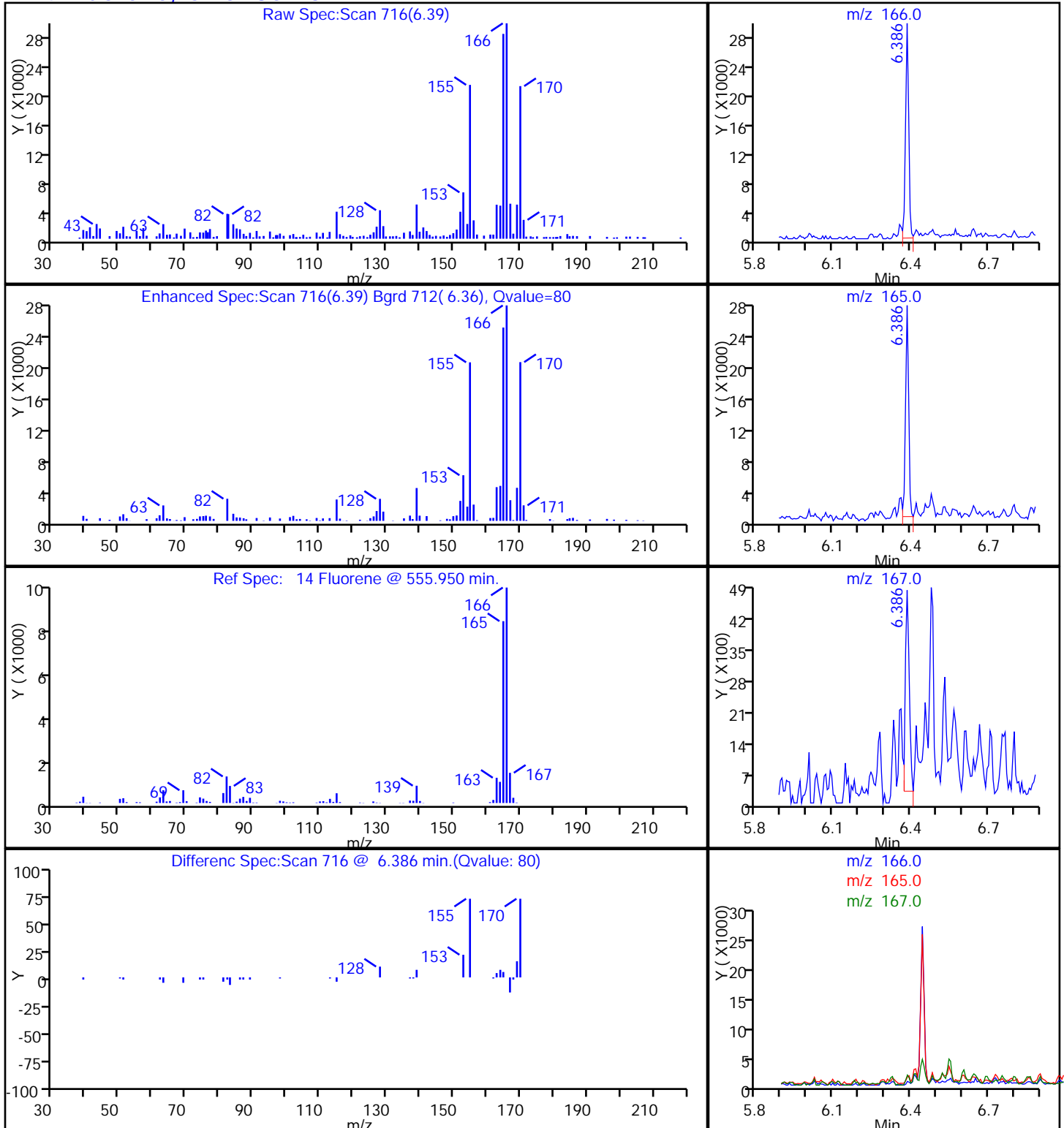
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

14 Fluorene, CAS: 86-73-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

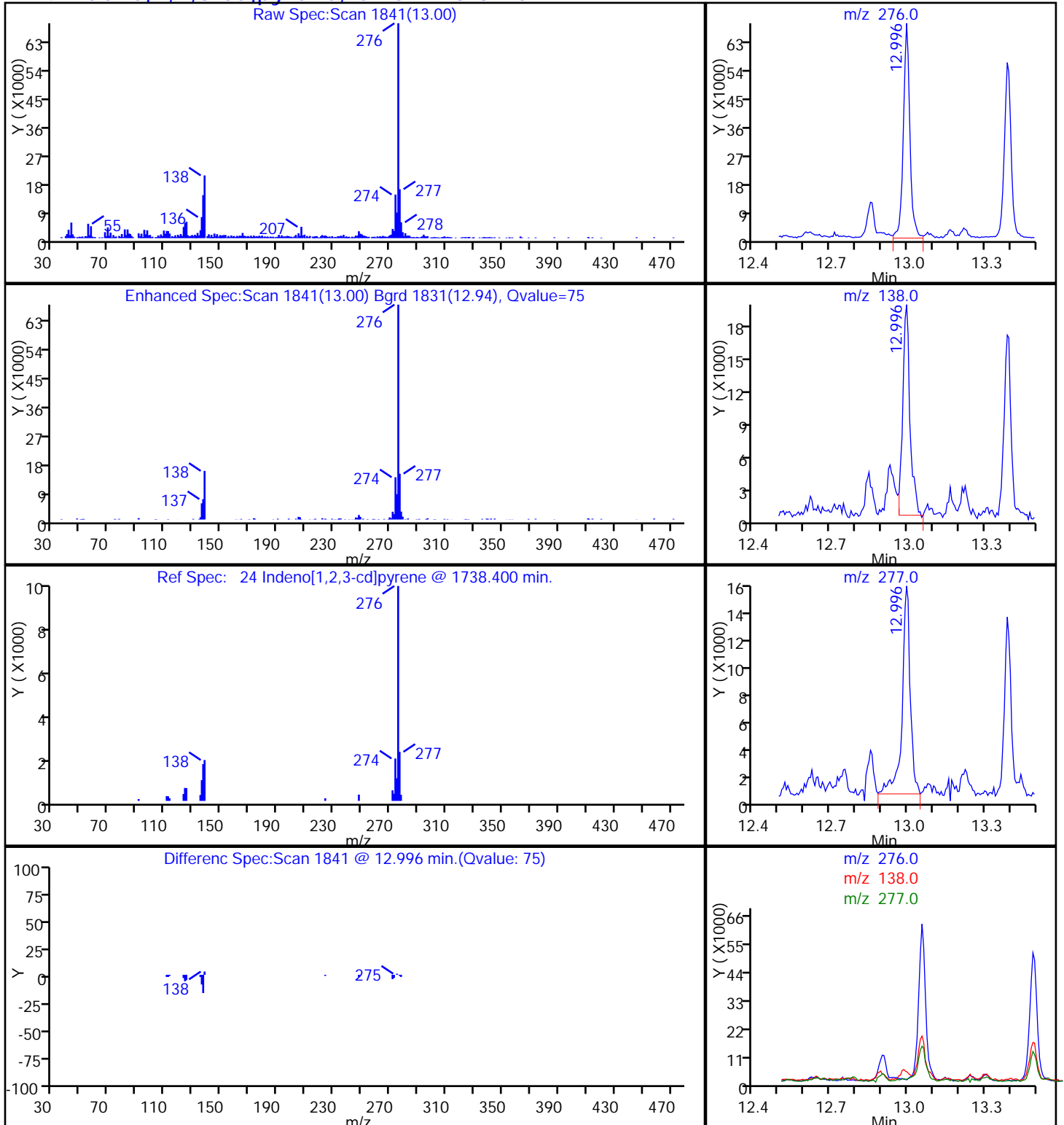
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

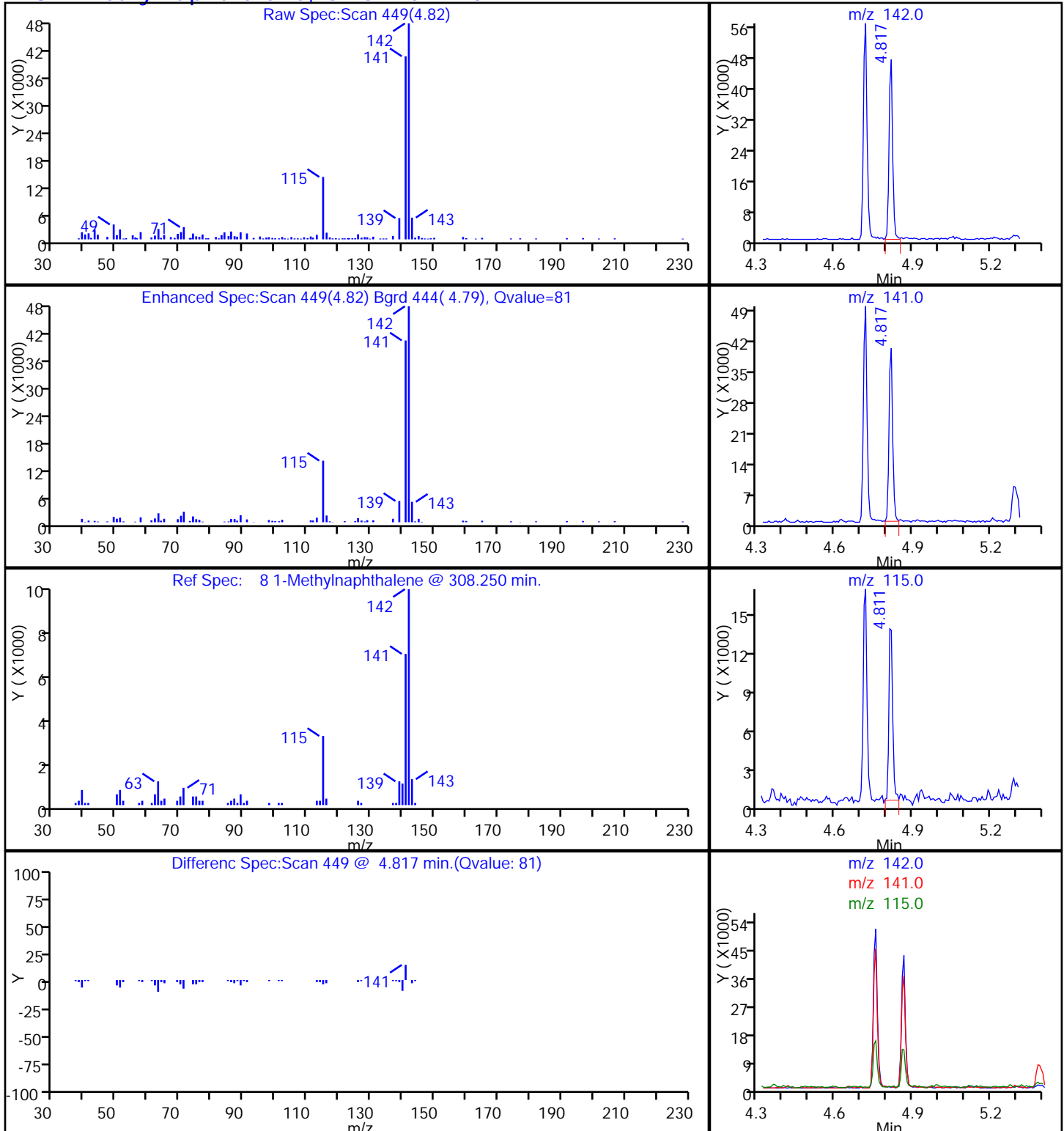
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

8 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

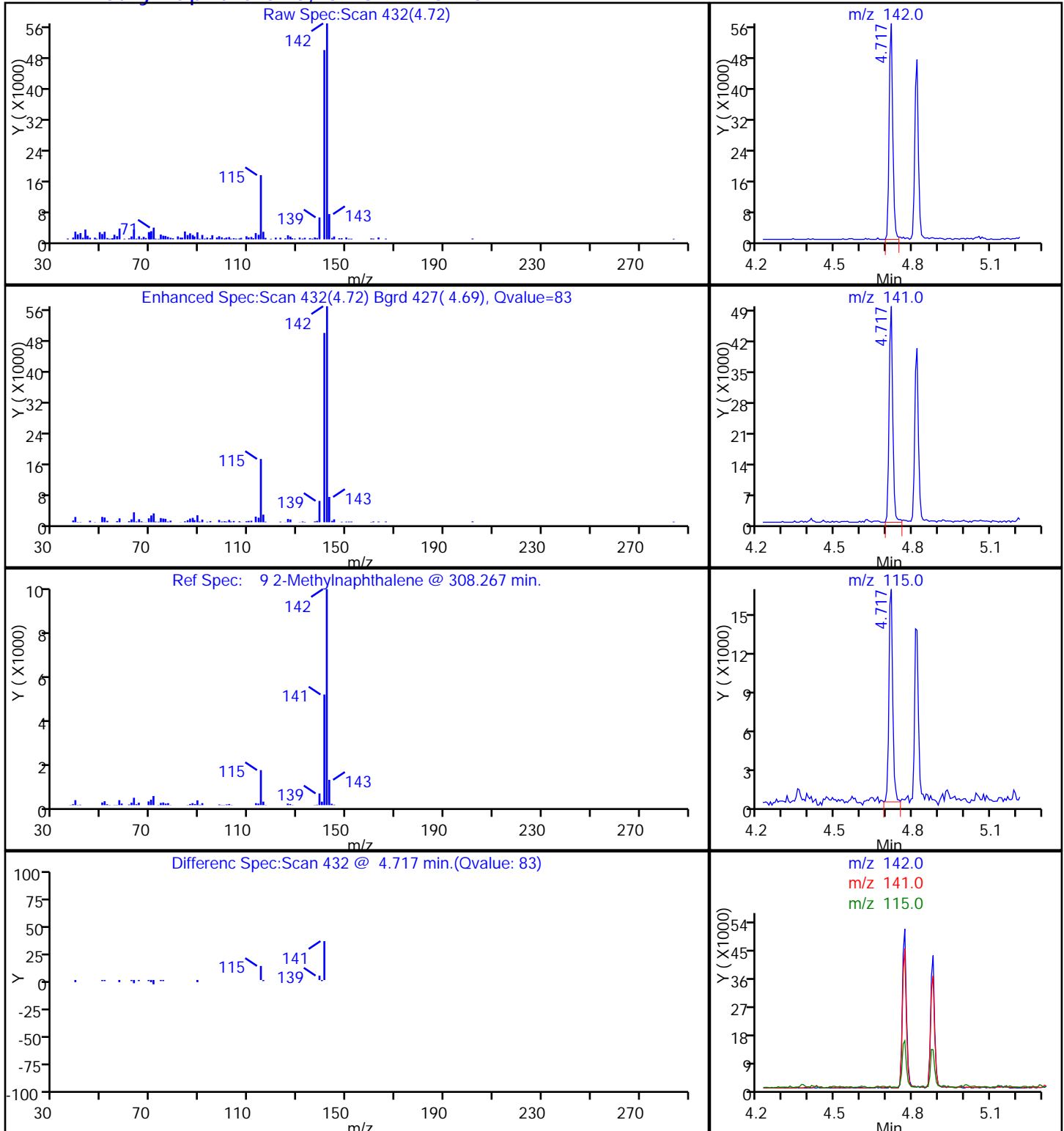
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 2-Methylnaphthalene, CAS: 91-57-6

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

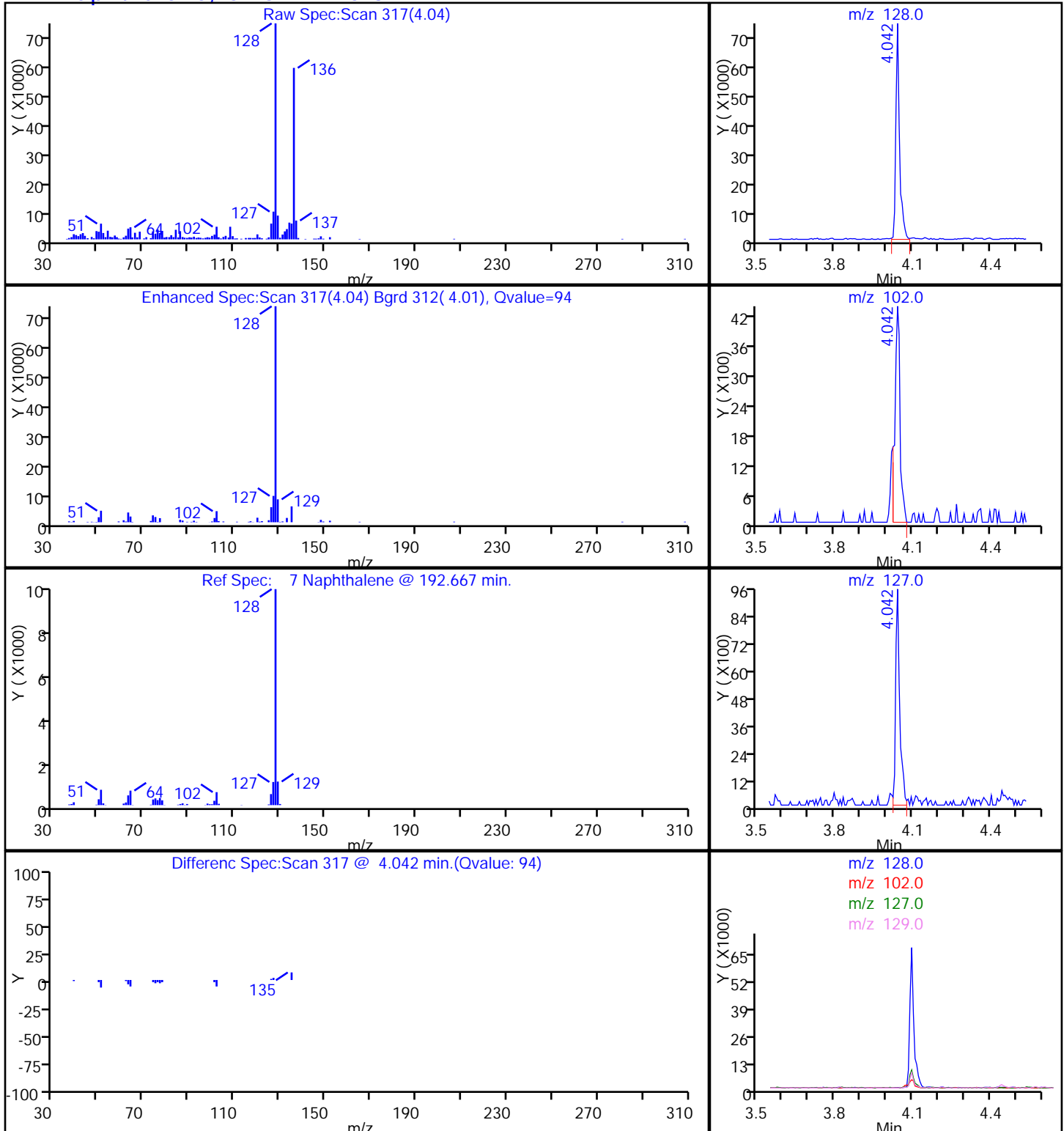
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

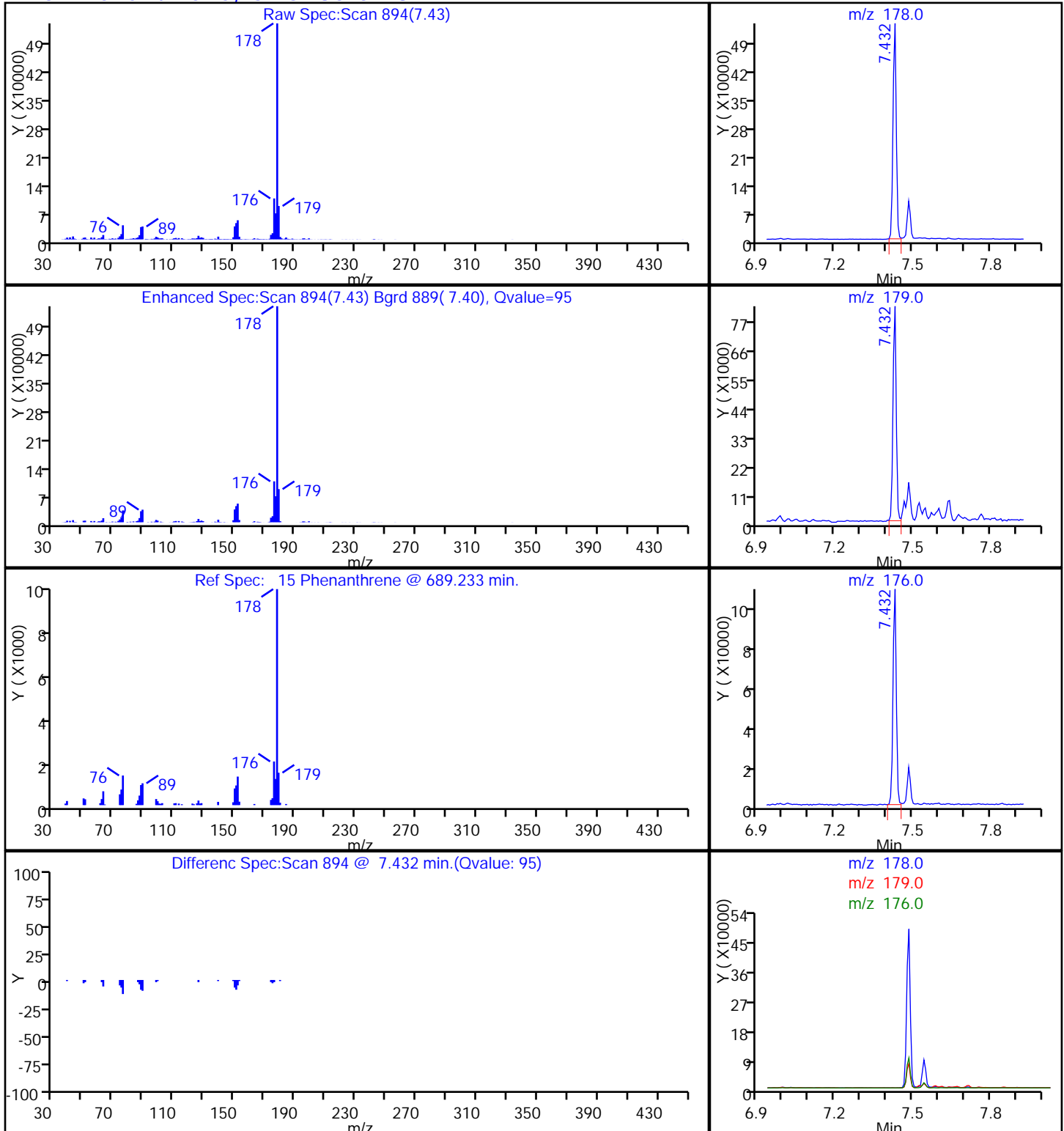
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D

Injection Date: 27-Aug-2014 00:35:30

Instrument ID: CMSK

Lims ID: 680-104534-A-15-A

Lab Sample ID: 680-104534-15

Client ID: FM0350B-CS4"

Operator ID: RM

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

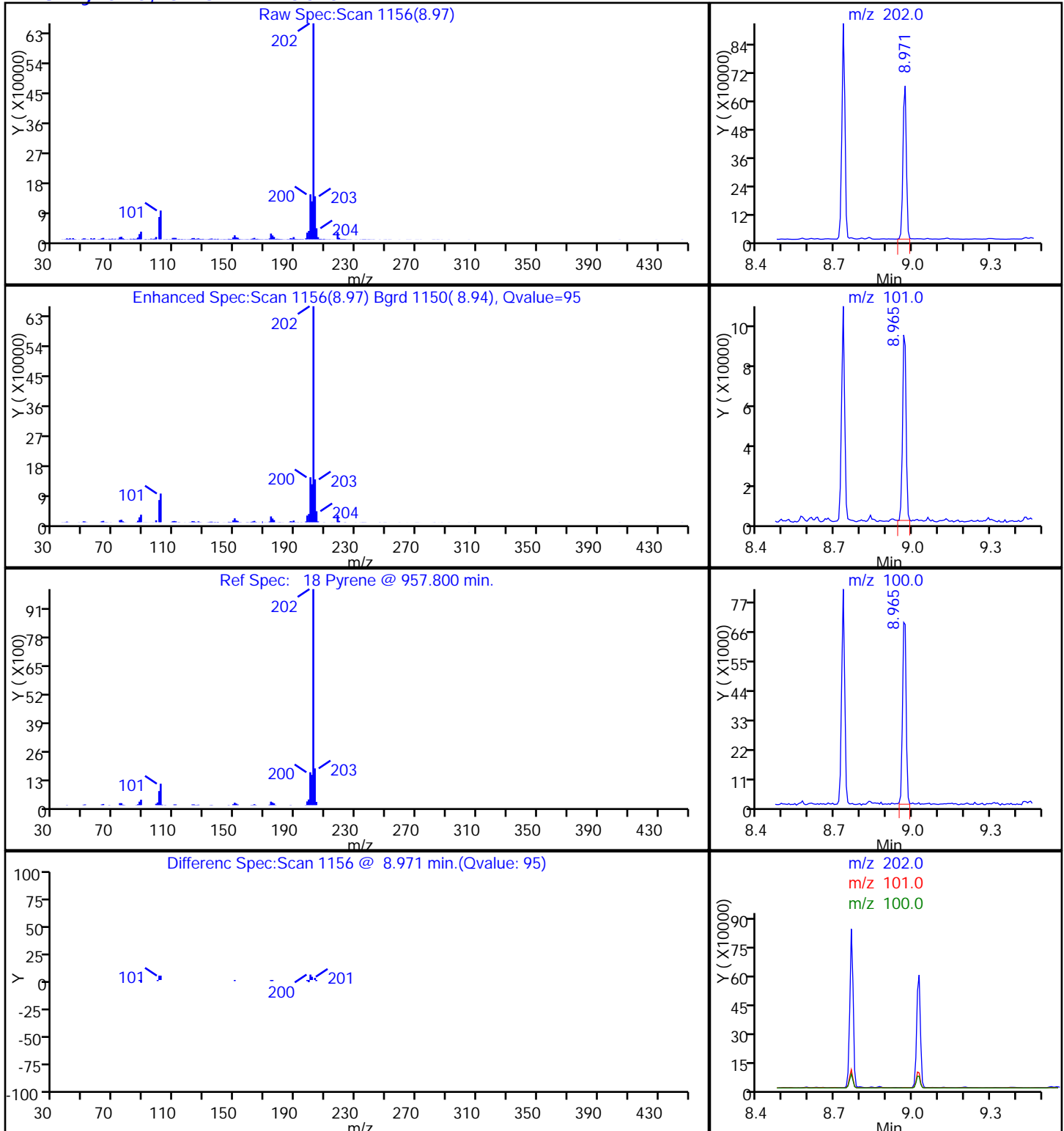
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



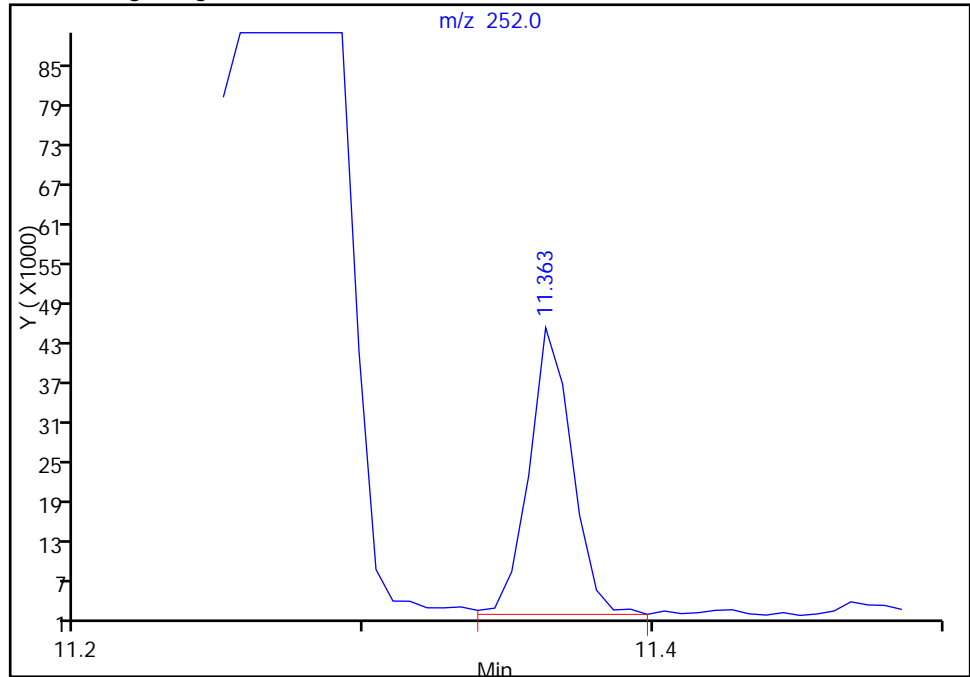
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2628.D		
Injection Date:	27-Aug-2014 00:35:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-15-A	Lab Sample ID:	680-104534-15
Client ID:	FM0350B-CS4"		
Operator ID:	RM	ALS Bottle#:	28
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270_LLPAH_CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	28

22 Benzo[k]fluoranthene, CAS: 207-08-9

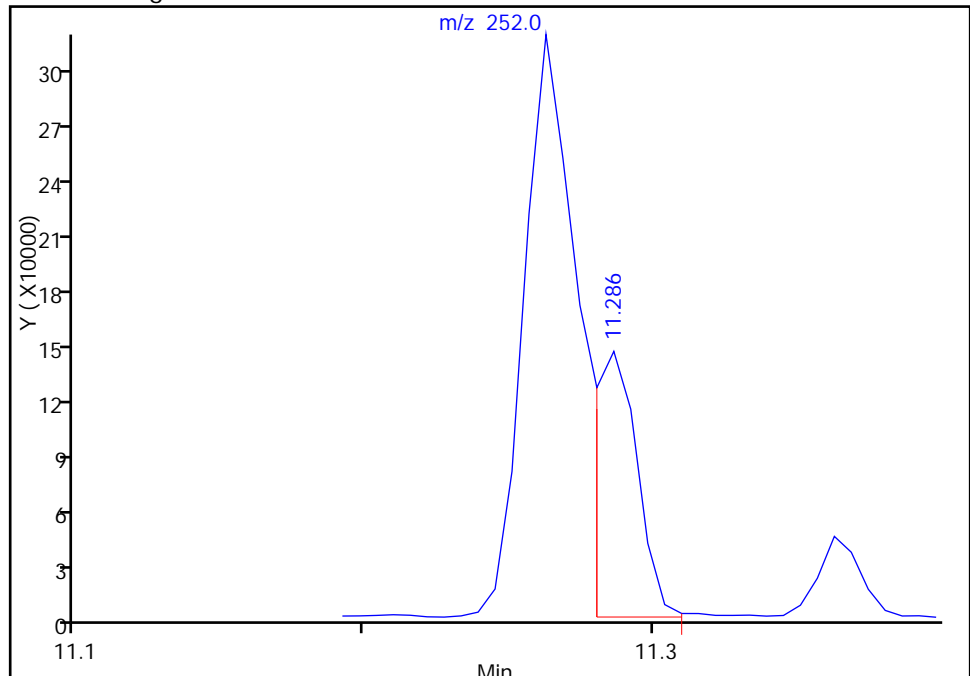
RT: 11.36
Response: 44982
Amount: 0.411717

Processing Integration Results



RT: 11.29
Response: 150238
Amount: 1.375116

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 11:43:19
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350C-CS4"</u>	Lab Sample ID: <u>680-104534-16</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2629.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 15:00</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/27/2014 00:58</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>20.8</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	U	85	42
208-96-8	Acenaphthylene	85	U	85	42
120-12-7	Anthracene	85	U	85	42
56-55-3	Benzo[a]anthracene	140		85	42
50-32-8	Benzo[a]pyrene	160		85	15
205-99-2	Benzo[b]fluoranthene	310		85	42
191-24-2	Benzo[g,h,i]perylene	84	J	85	42
207-08-9	Benzo[k]fluoranthene	91		85	25
218-01-9	Chrysene	200		85	42
53-70-3	Dibenz(a,h)anthracene	85	U	85	42
206-44-0	Fluoranthene	300		85	42
86-73-7	Fluorene	85	U	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	51	J	85	42
90-12-0	1-Methylnaphthalene	85	U	85	39
91-57-6	2-Methylnaphthalene	85	U	85	42
91-20-3	Naphthalene	85	U	85	42
85-01-8	Phenanthrene	160		85	30
129-00-0	Pyrene	240		85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D
 Lims ID: 680-104534-A-16-A Lab Sample ID: 680-104534-16
 Client ID: FM0350C-CS4"
 Sample Type: Client
 Inject. Date: 27-Aug-2014 00:58:30 ALS Bottle#: 29 Worklist Smp#: 29
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-16-A
 Misc. Info.: 680-0012269-029
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 12:22:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.024	4.024	0.000	98	561402	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	91	270378	2.00	
* 3 Phenanthrene-d10	188	7.402	7.408	-0.006	98	349521	2.00	
* 4 Chrysene-d12	240	10.229	10.229	0.000	97	262180	2.00	
* 5 Perylene-d12	264	11.668	11.668	0.000	98	151028	2.00	
7 Naphthalene	128	4.042	4.042	0.000	62	21388	0.0839	
9 2-Methylnaphthalene	142	4.717	4.717	0.000	80	13931	0.0913	
8 1-Methylnaphthalene	142	4.817	4.817	0.000	63	12380	0.0821	
15 Phenanthrene	178	7.432	7.432	0.000	73	63094	0.3802	
16 Anthracene	178	7.485	7.485	0.000	68	7822	0.0500	
17 Fluoranthene	202	8.730	8.730	0.000	97	119905	0.7200	
18 Pyrene	202	8.971	8.971	0.000	95	97279	0.5822	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	91	39805	0.3400	
20 Chrysene	228	10.252	10.252	0.000	76	54609	0.4754	
21 Benzo[b]fluoranthene	252	11.269	11.269	0.000	84	55525	0.7415	
22 Benzo[k]fluoranthene	252	11.292	11.298	-0.006	81	16824	0.2155	M
23 Benzo[a]pyrene	252	11.603	11.610	-0.007	83	25216	0.3814	
24 Indeno[1,2,3-cd]pyrene	276	13.002	13.002	0.000	91	12780	0.1205	
26 Benzo[g,h,i]perylene	276	13.395	13.402	-0.007	78	13346	0.1994	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 28-Aug-2014 15:21:34

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Worklist Smp#: 29

Client ID: FM0350C-CS4"

Injection Vol: 2.0 ul

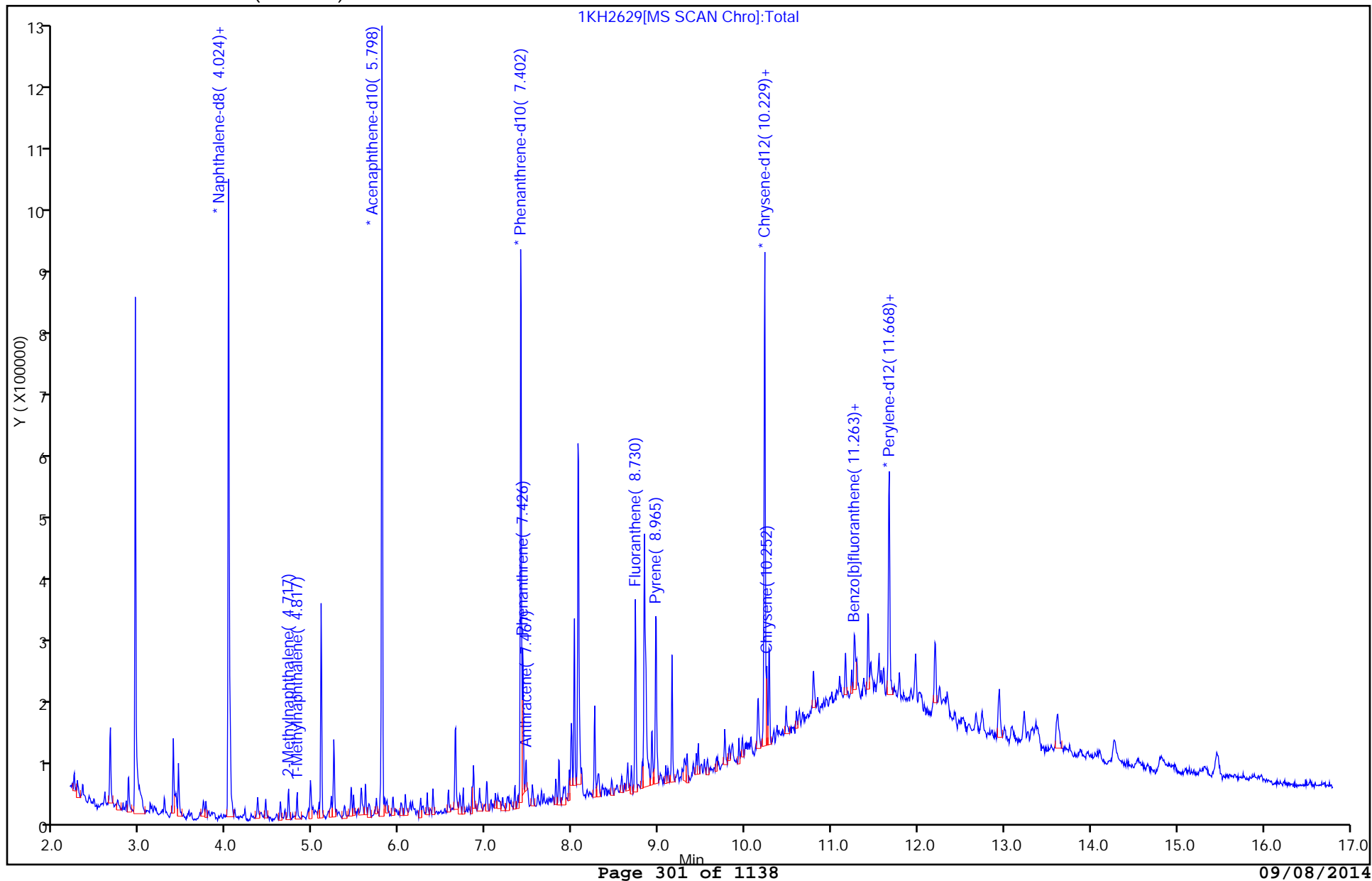
Dil. Factor: 10.0000

ALS Bottle#: 29

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

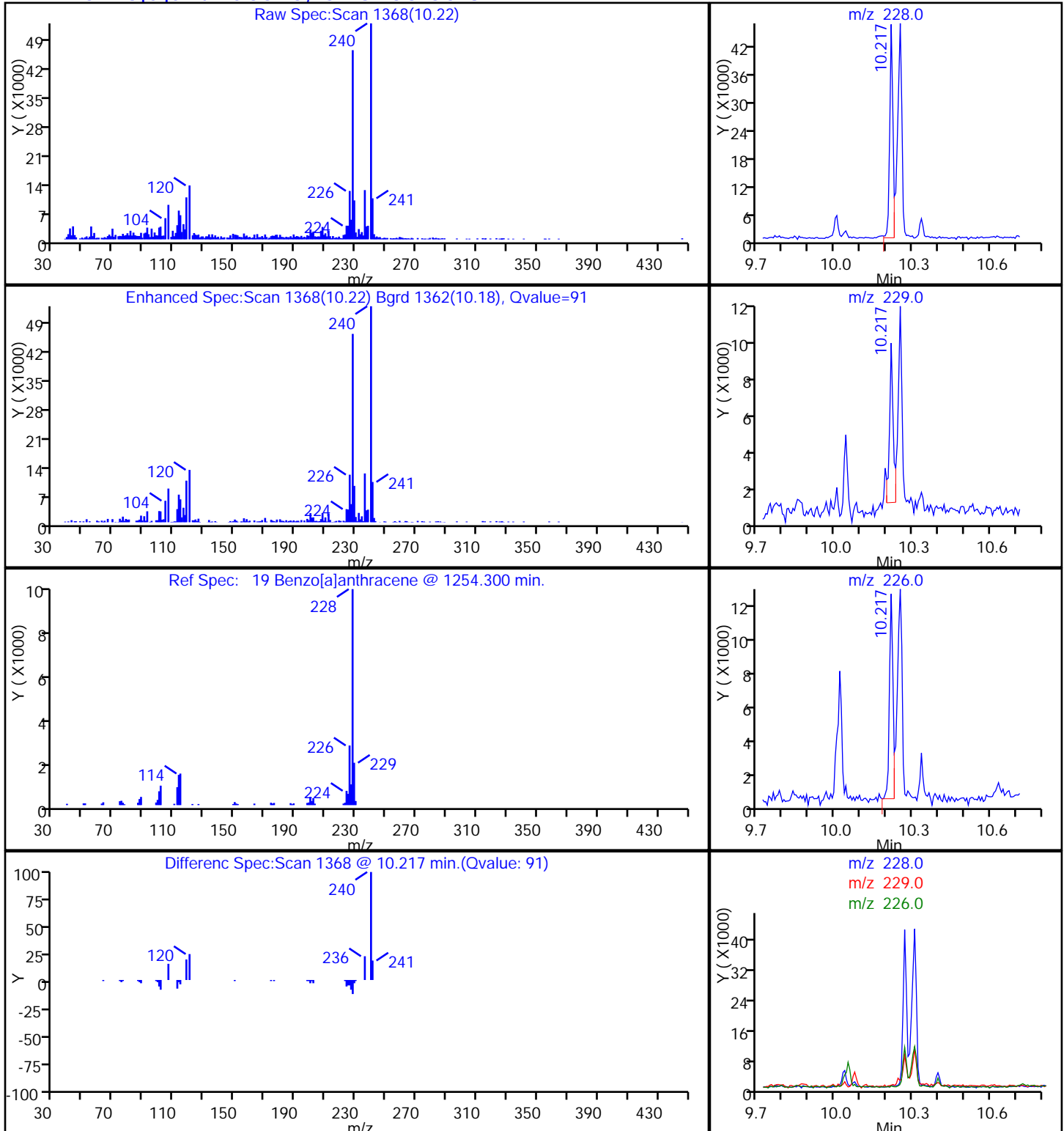
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

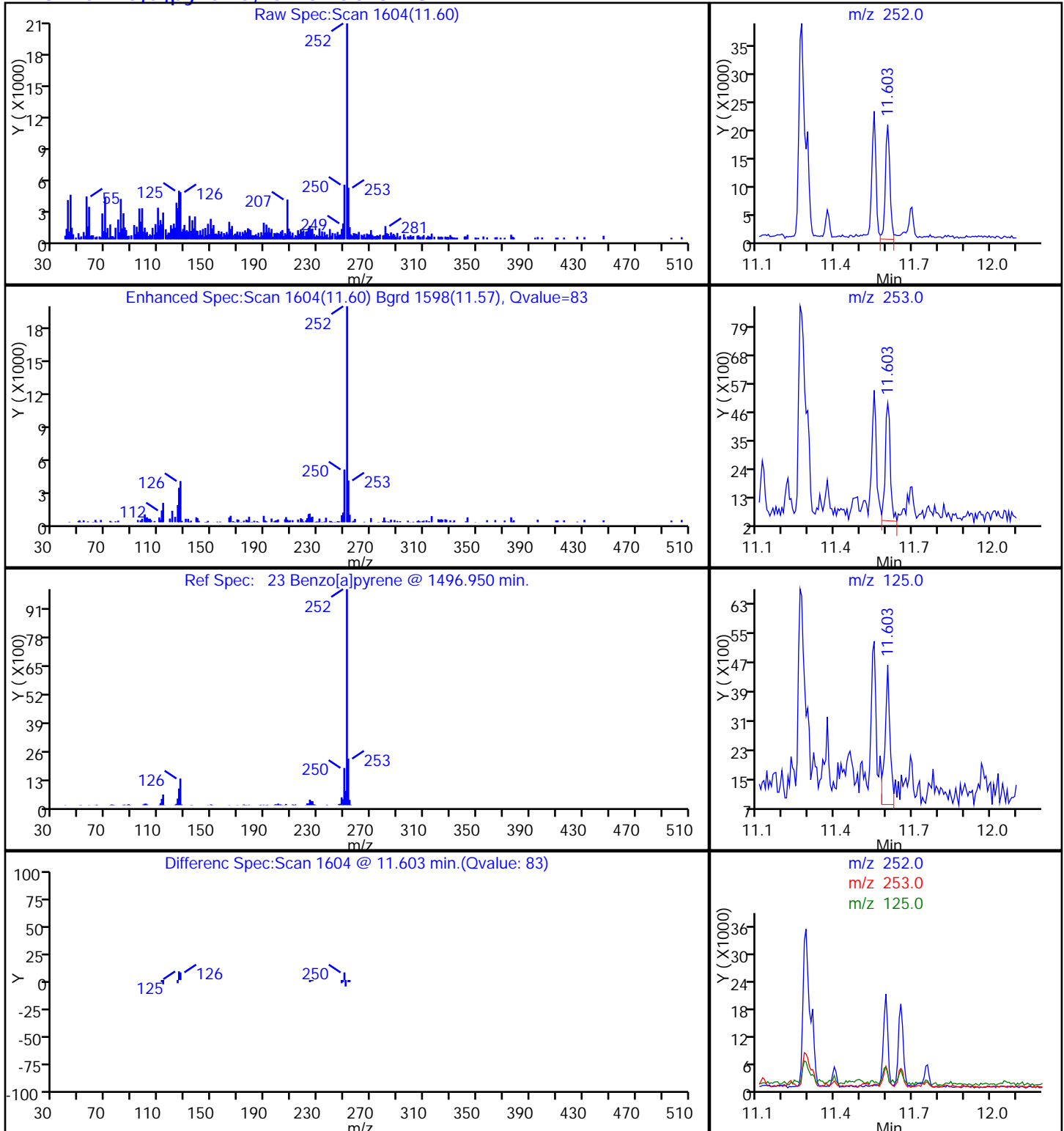
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

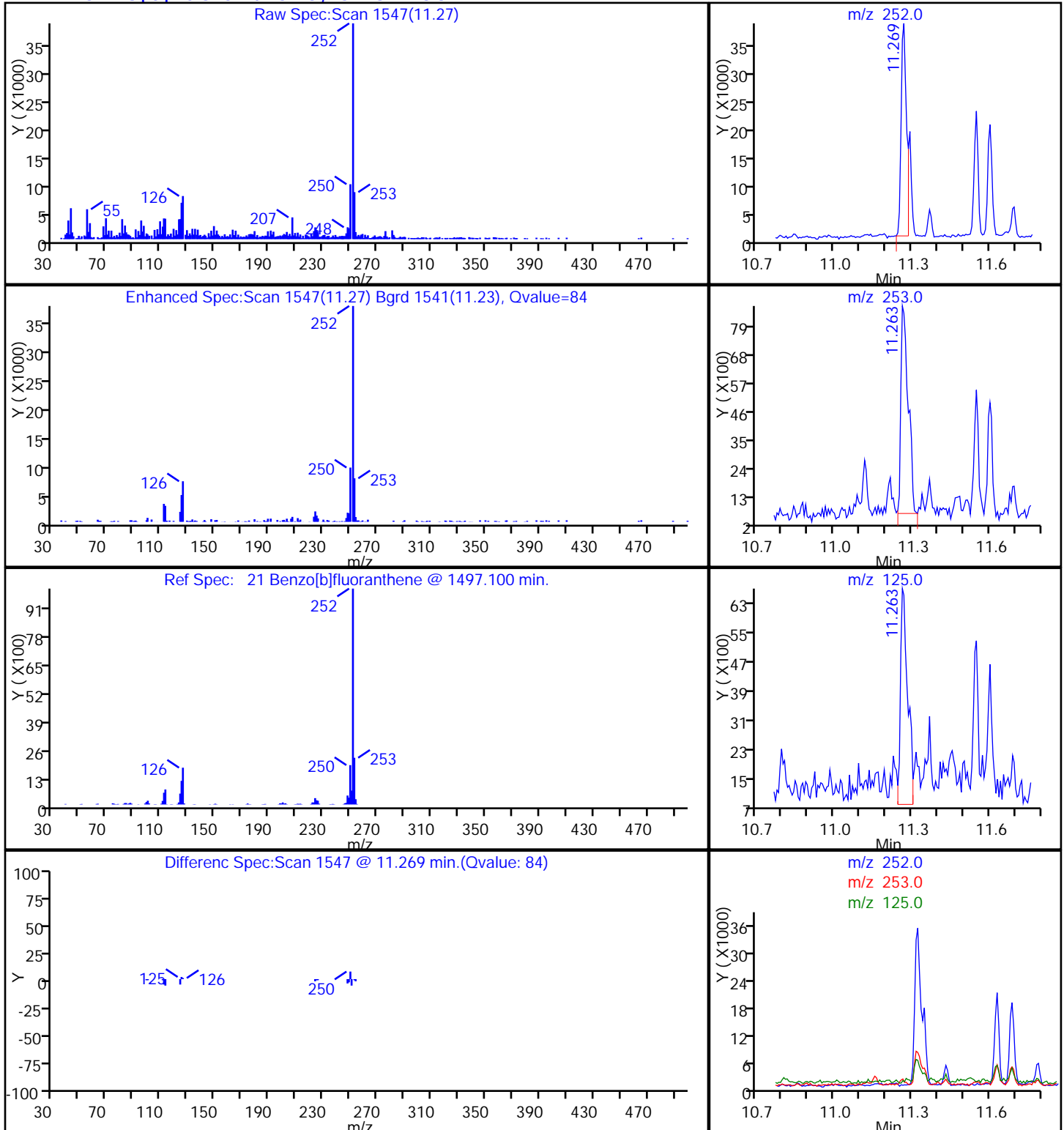
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

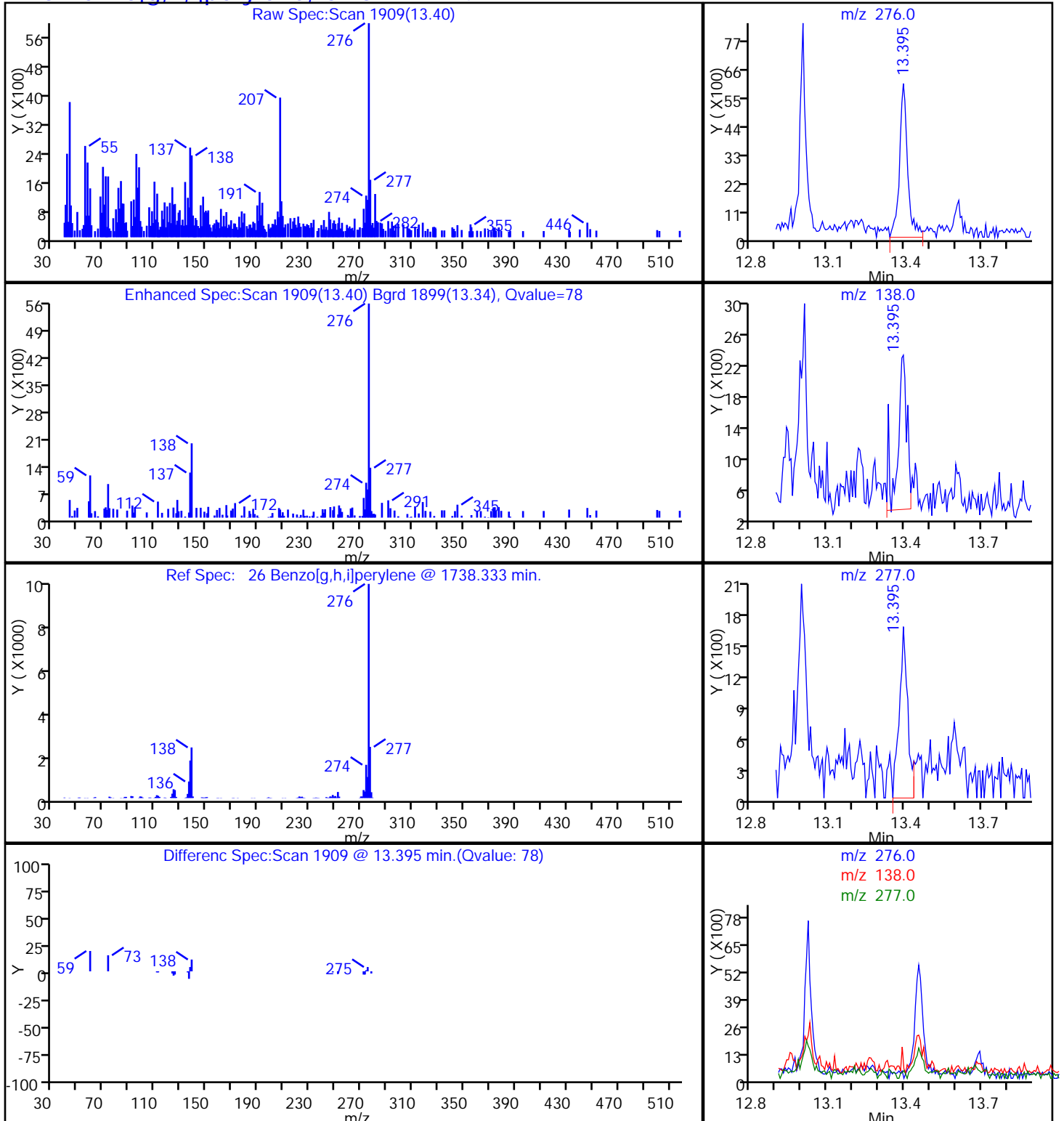
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

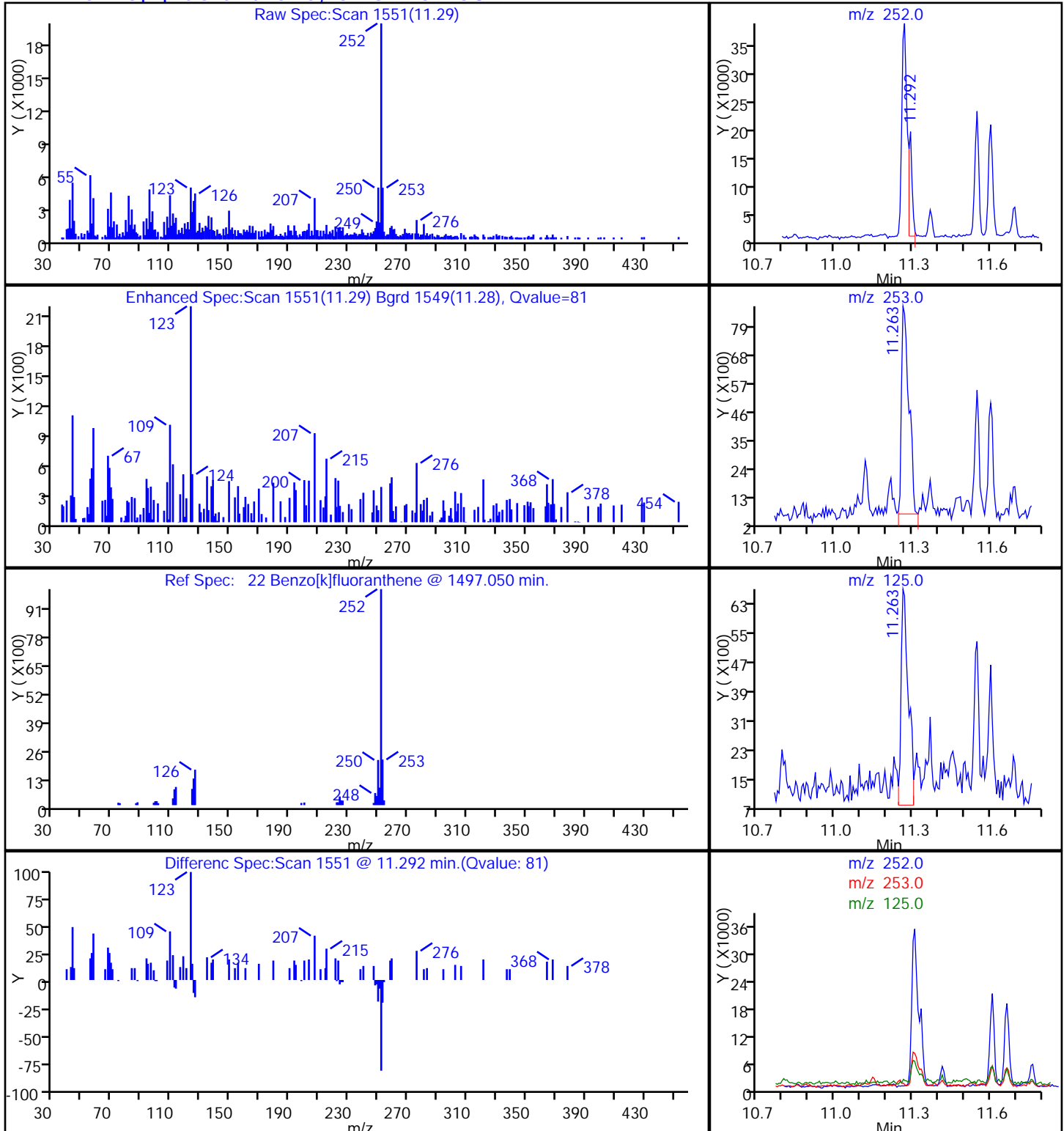
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

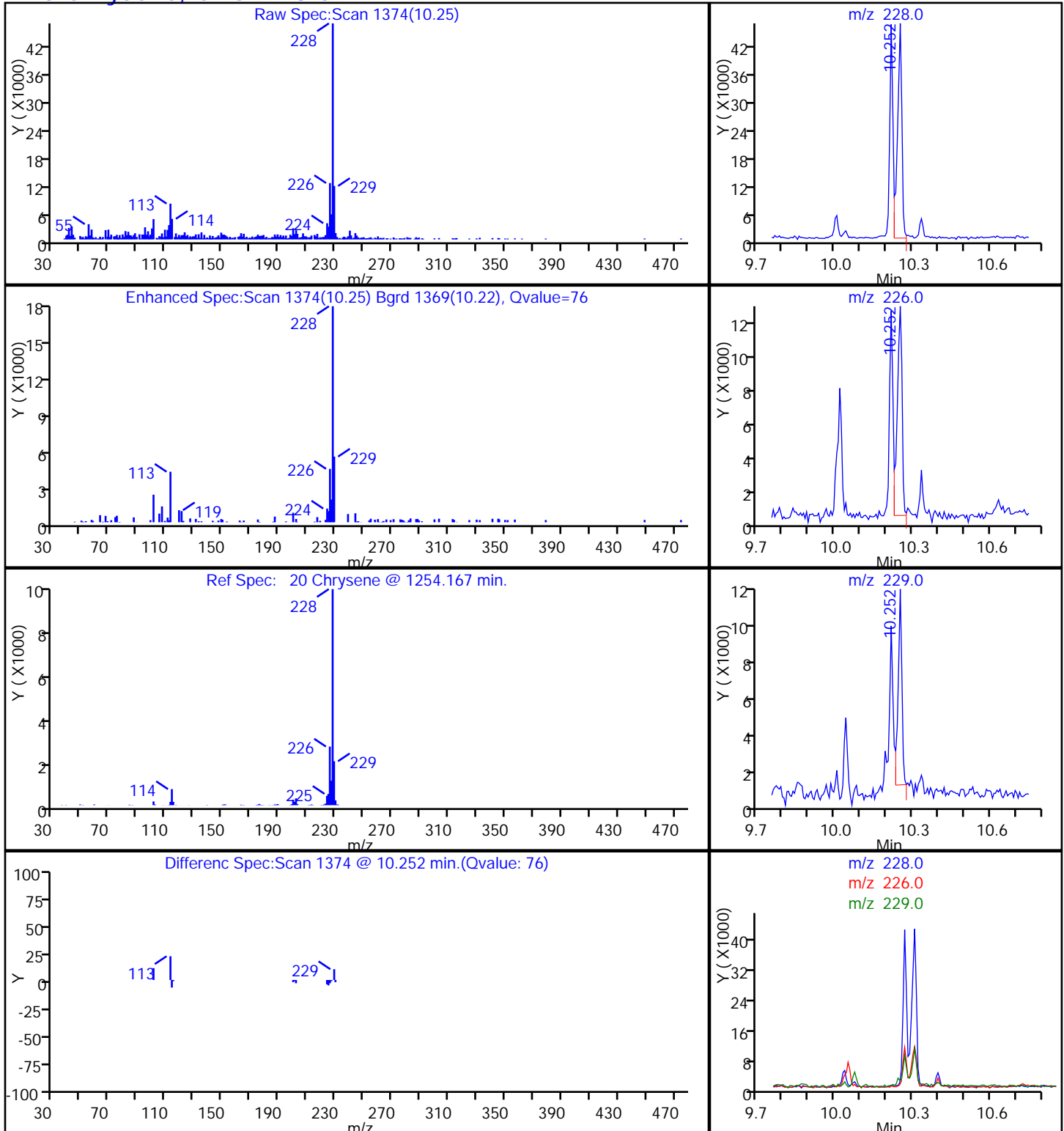
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

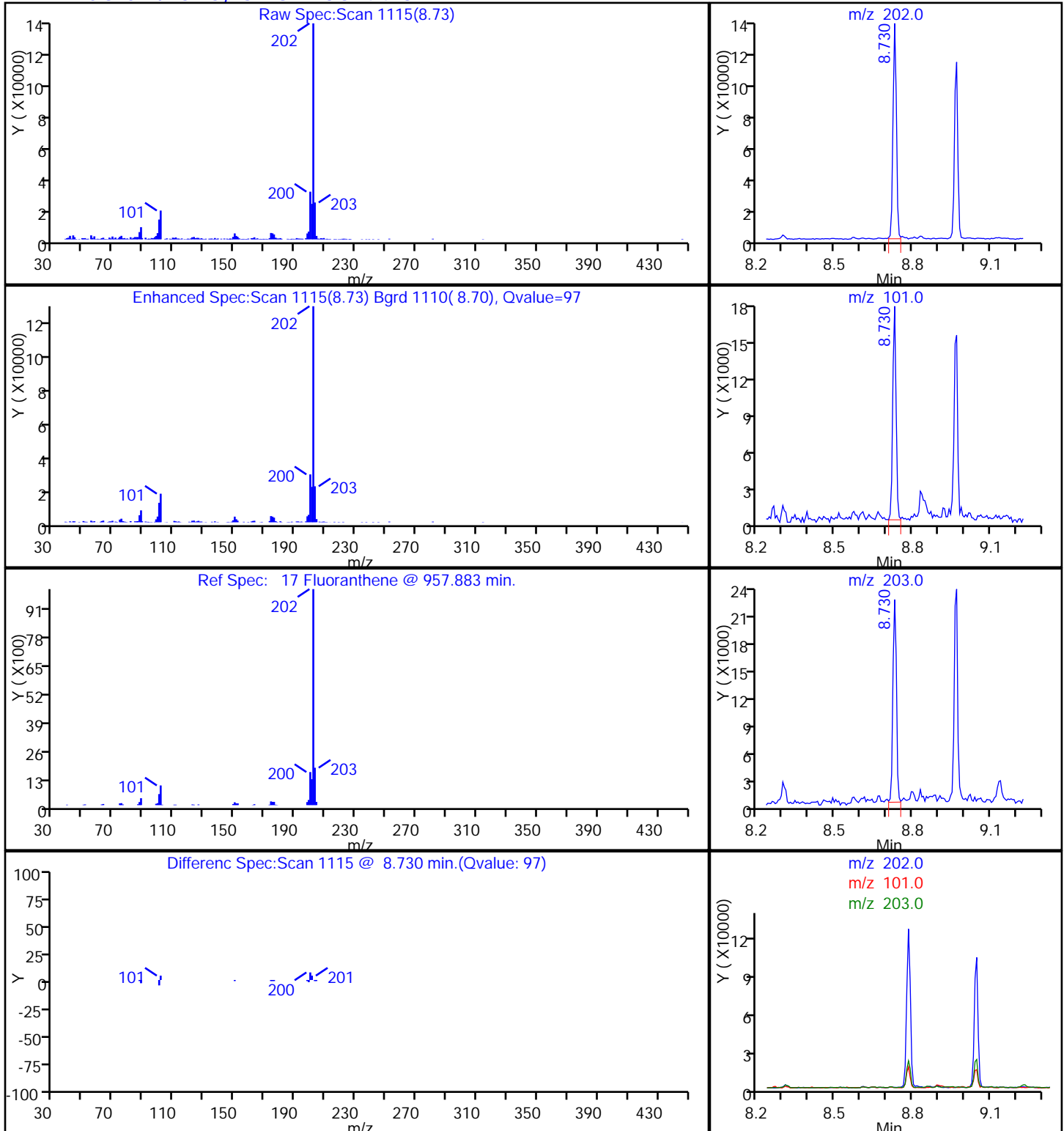
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

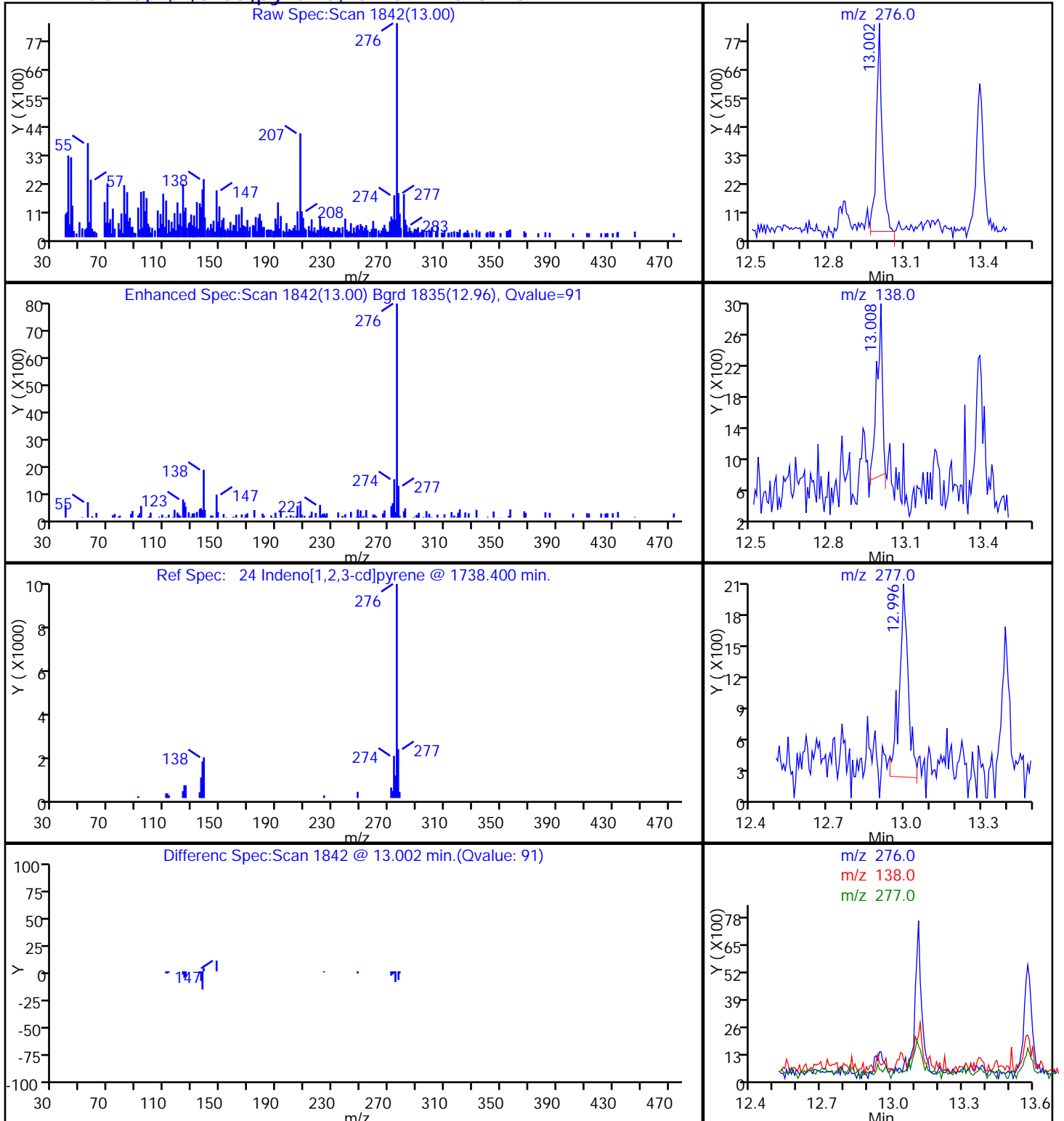
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

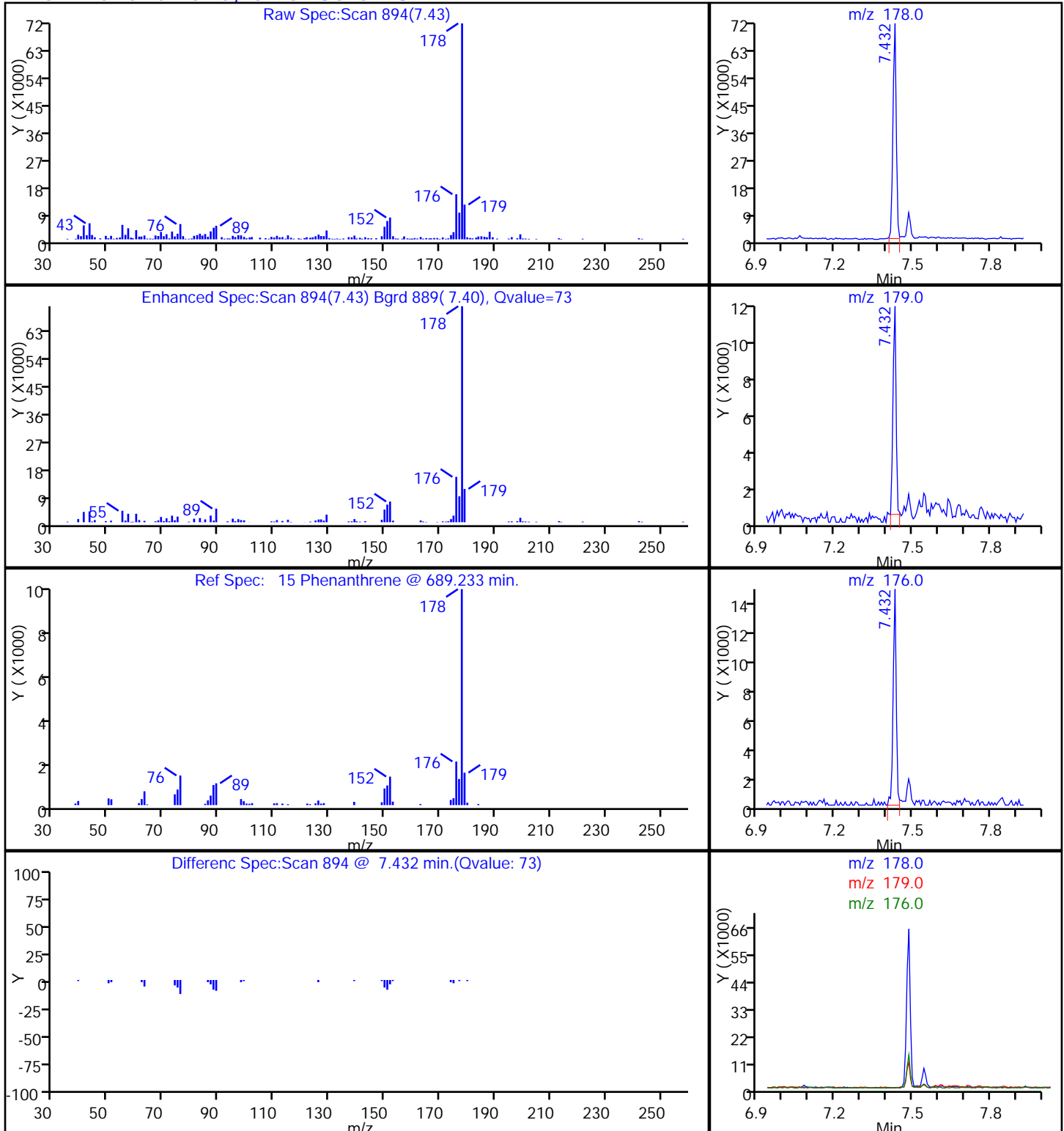
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D

Injection Date: 27-Aug-2014 00:58:30

Instrument ID: CMSK

Lims ID: 680-104534-A-16-A

Lab Sample ID: 680-104534-16

Client ID: FM0350C-CS4"

Operator ID: RM

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

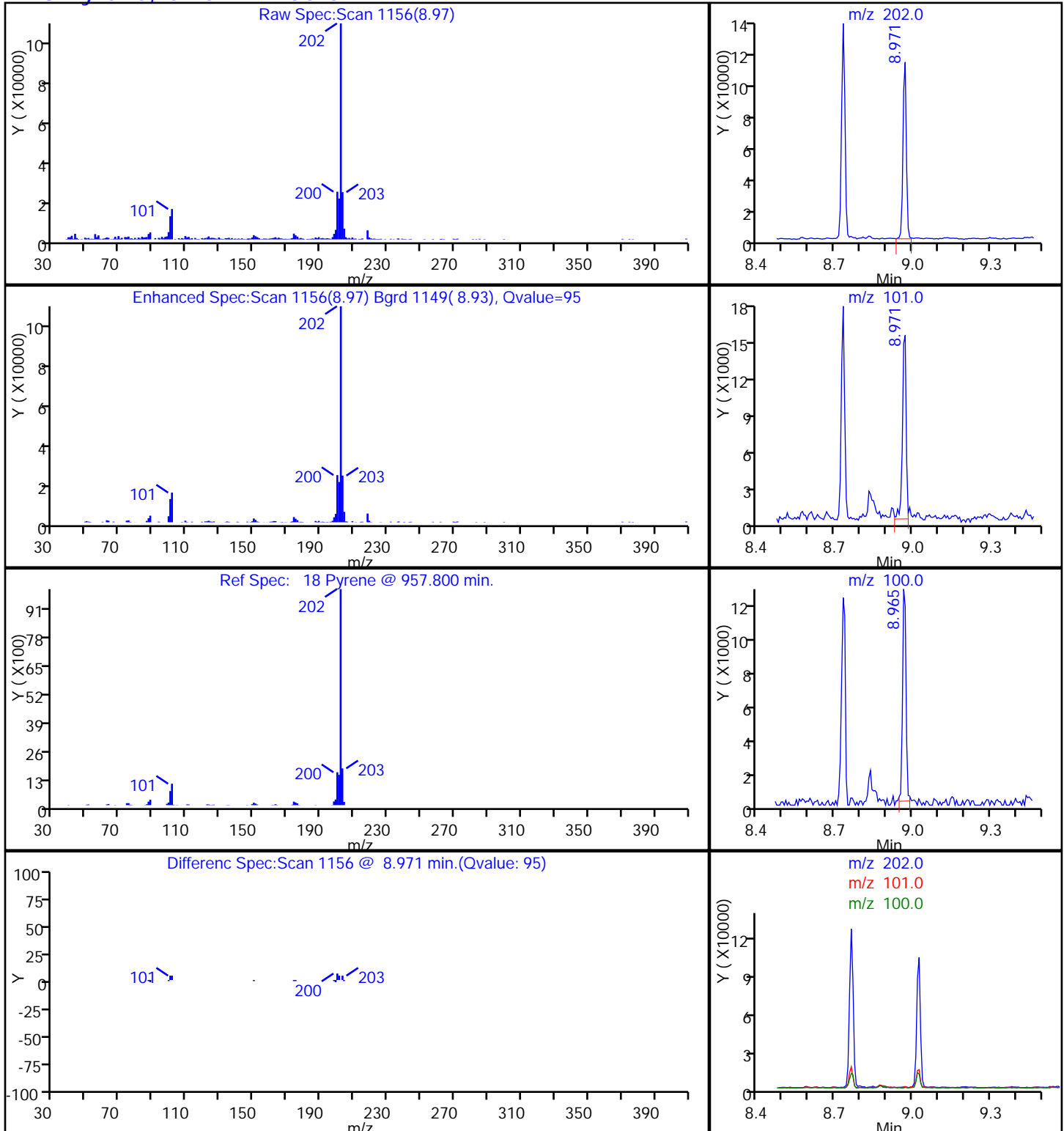
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



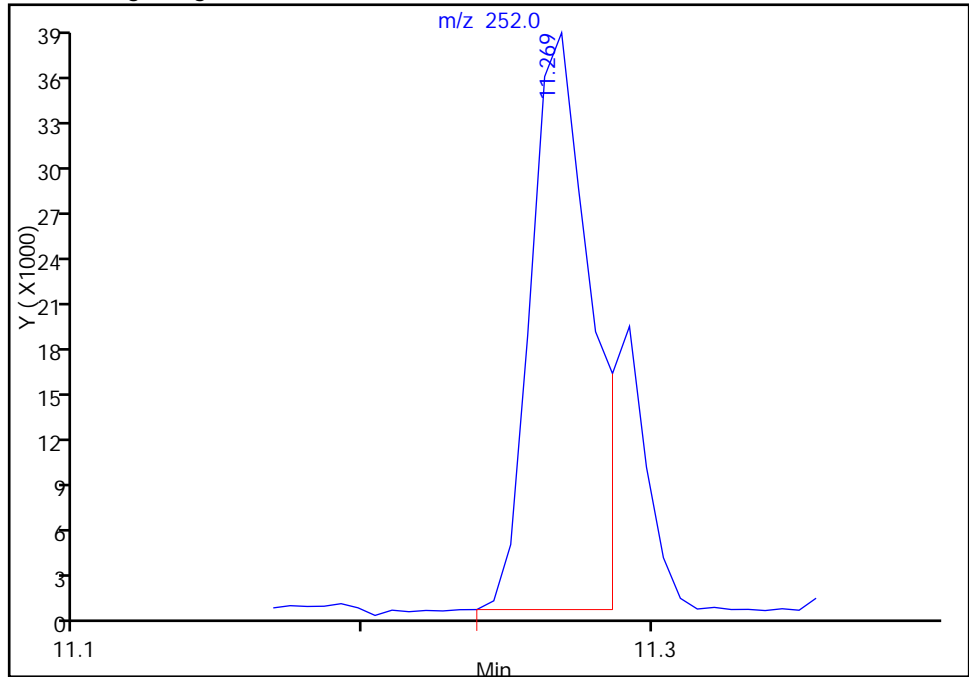
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2629.D		
Injection Date:	27-Aug-2014 00:58:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-16-A	Lab Sample ID:	680-104534-16
Client ID:	FM0350C-CS4"		
Operator ID:	RM	ALS Bottle#:	29
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270_LLPAH\CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	29

22 Benzo[k]fluoranthene, CAS: 207-08-9

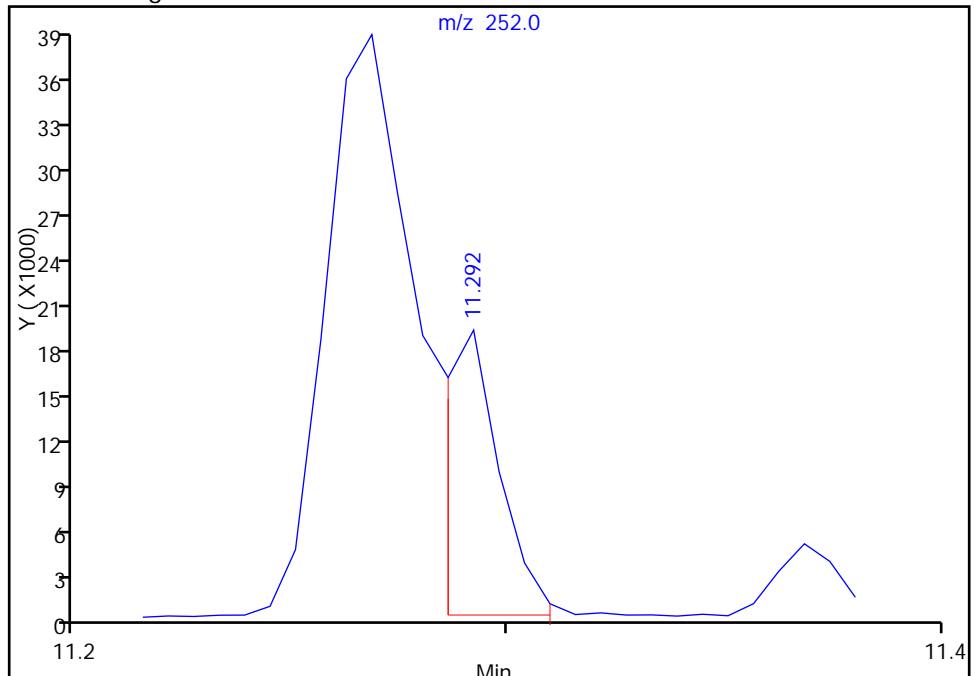
RT: 11.27
Response: 55525
Amount: 0.711175

Processing Integration Results



RT: 11.29
Response: 16824
Amount: 0.215485

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 12:22:32
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350D-CS4"</u>	Lab Sample ID: <u>680-104534-17</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1KH2630.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 15:30</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/27/2014 01:21</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>21.7</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345964</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	86	U	86	42
208-96-8	Acenaphthylene	86	U	86	42
120-12-7	Anthracene	91		86	42
56-55-3	Benzo[a]anthracene	540		86	42
50-32-8	Benzo[a]pyrene	520		86	15
205-99-2	Benzo[b]fluoranthene	910		86	42
191-24-2	Benzo[g,h,i]perylene	210		86	42
207-08-9	Benzo[k]fluoranthene	290		86	26
218-01-9	Chrysene	630		86	42
53-70-3	Dibenz(a,h)anthracene	62	J	86	42
206-44-0	Fluoranthene	1200		86	42
86-73-7	Fluorene	86	U	86	42
193-39-5	Indeno[1,2,3-cd]pyrene	210		86	42
90-12-0	1-Methylnaphthalene	91		86	40
91-57-6	2-Methylnaphthalene	99		86	42
91-20-3	Naphthalene	73	J	86	42
85-01-8	Phenanthrene	640		86	31
129-00-0	Pyrene	850		86	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D
 Lims ID: 680-104534-A-17-A Lab Sample ID: 680-104534-17
 Client ID: FM0350D-CS4"
 Sample Type: Client
 Inject. Date: 27-Aug-2014 01:21:30 ALS Bottle#: 30 Worklist Smp#: 30
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-17-A
 Misc. Info.: 680-0012269-030
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 28-Aug-2014 15:20:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK051

First Level Reviewer: webbk

Date: 27-Aug-2014 12:25:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.024	4.024	0.000	98	592324	2.00	
* 2 Acenaphthene-d10	164	5.798	5.799	-0.001	86	296757	2.00	
* 3 Phenanthrene-d10	188	7.408	7.408	0.000	97	371759	2.00	
* 4 Chrysene-d12	240	10.229	10.229	0.000	97	274972	2.00	
* 5 Perylene-d12	264	11.674	11.668	0.006	97	197226	2.00	
7 Naphthalene	128	4.042	4.042	0.000	76	45847	0.1705	
9 2-Methylnaphthalene	142	4.717	4.717	0.000	86	37559	0.2334	
8 1-Methylnaphthalene	142	4.817	4.817	0.000	87	33992	0.2138	
12 Acenaphthene	153	5.834	5.834	0.000	78	9847	0.0656	
14 Fluorene	166	6.386	6.386	0.000	67	13315	0.0962	
15 Phenanthrene	178	7.432	7.432	0.000	94	266910	1.51	
16 Anthracene	178	7.485	7.485	0.000	94	35528	0.2134	
17 Fluoranthene	202	8.730	8.730	0.000	98	479553	2.71	
18 Pyrene	202	8.971	8.971	0.000	97	351969	2.01	
19 Benzo[a]anthracene	228	10.223	10.217	0.006	97	155129	1.26	
20 Chrysene	228	10.258	10.252	0.006	94	179752	1.49	
21 Benzo[b]fluoranthene	252	11.274	11.269	0.005	97	208221	2.13	
22 Benzo[k]fluoranthene	252	11.298	11.298	0.000	94	68859	0.6754	M
23 Benzo[a]pyrene	252	11.609	11.610	-0.001	84	106397	1.23	
24 Indeno[1,2,3-cd]pyrene	276	13.008	13.002	0.006	94	54286	0.4881	
25 Dibenz(a,h)anthracene	278	13.031	13.037	-0.006	83	12560	0.1449	
26 Benzo[g,h,i]perylene	276	13.407	13.402	0.005	80	44081	0.5043	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00105

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 28-Aug-2014 15:21:51

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Worklist Smp#: 30

Client ID: FM0350D-CS4"

Injection Vol: 2.0 ul

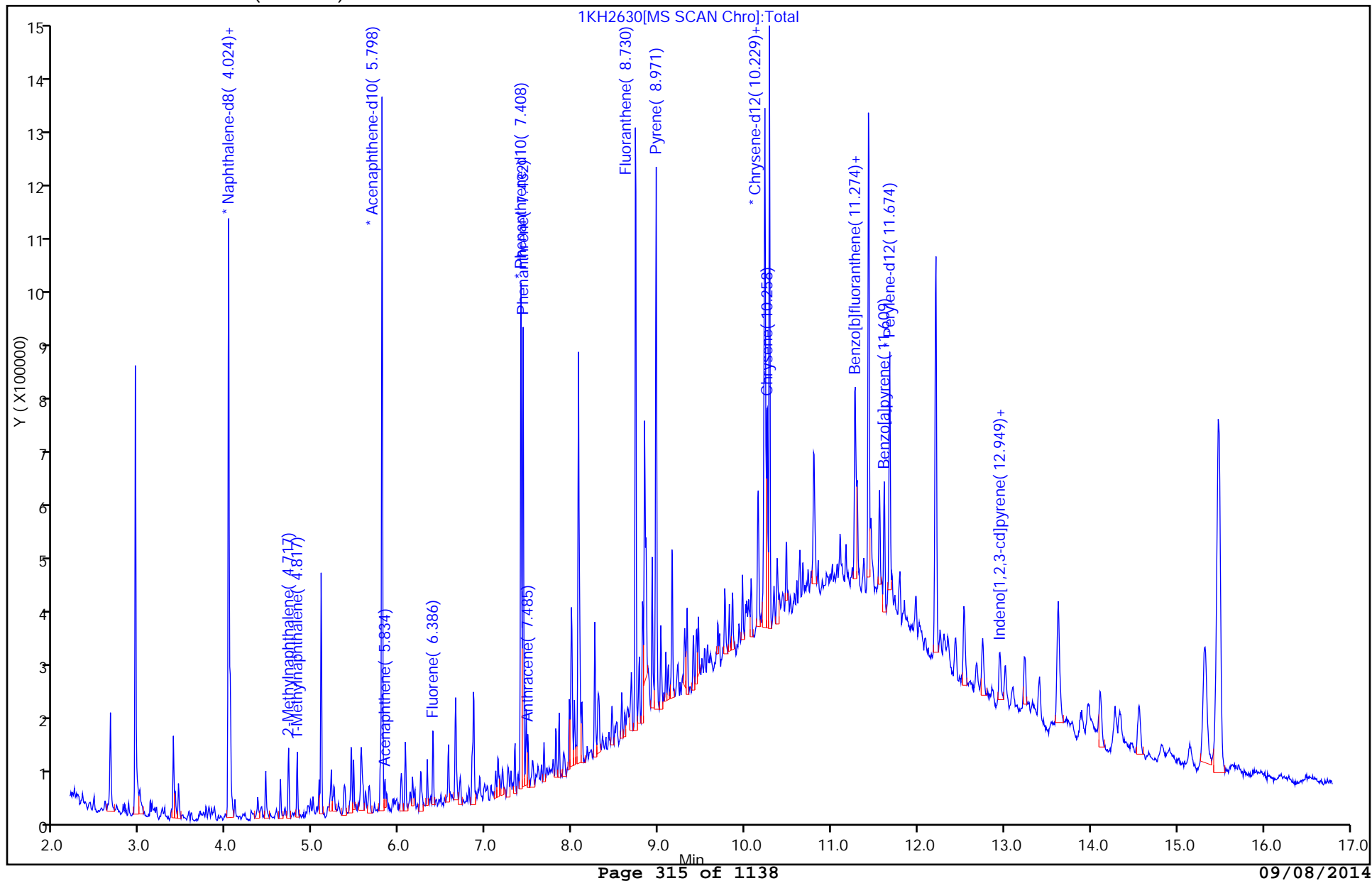
Dil. Factor: 10.0000

ALS Bottle#: 30

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

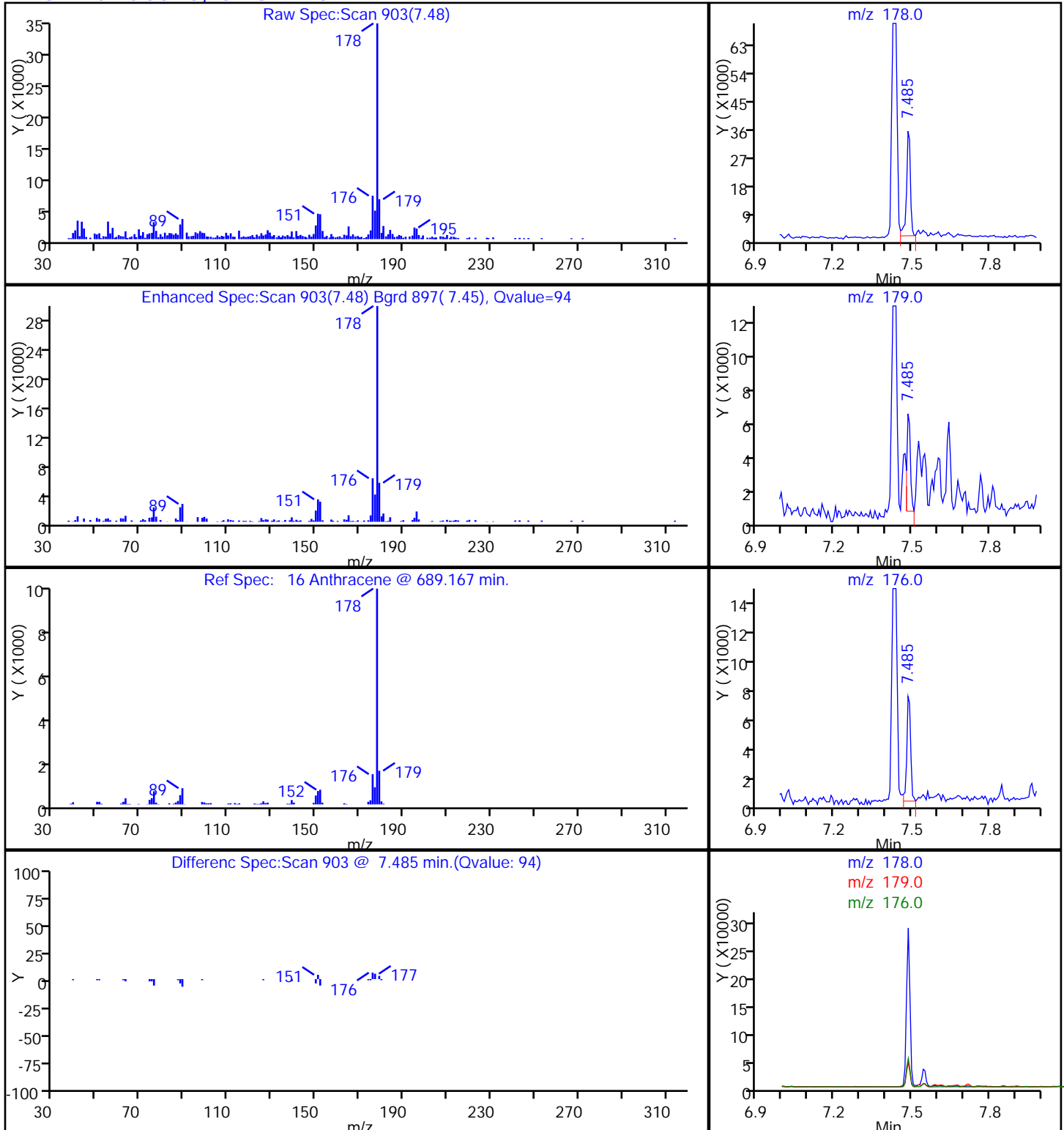
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

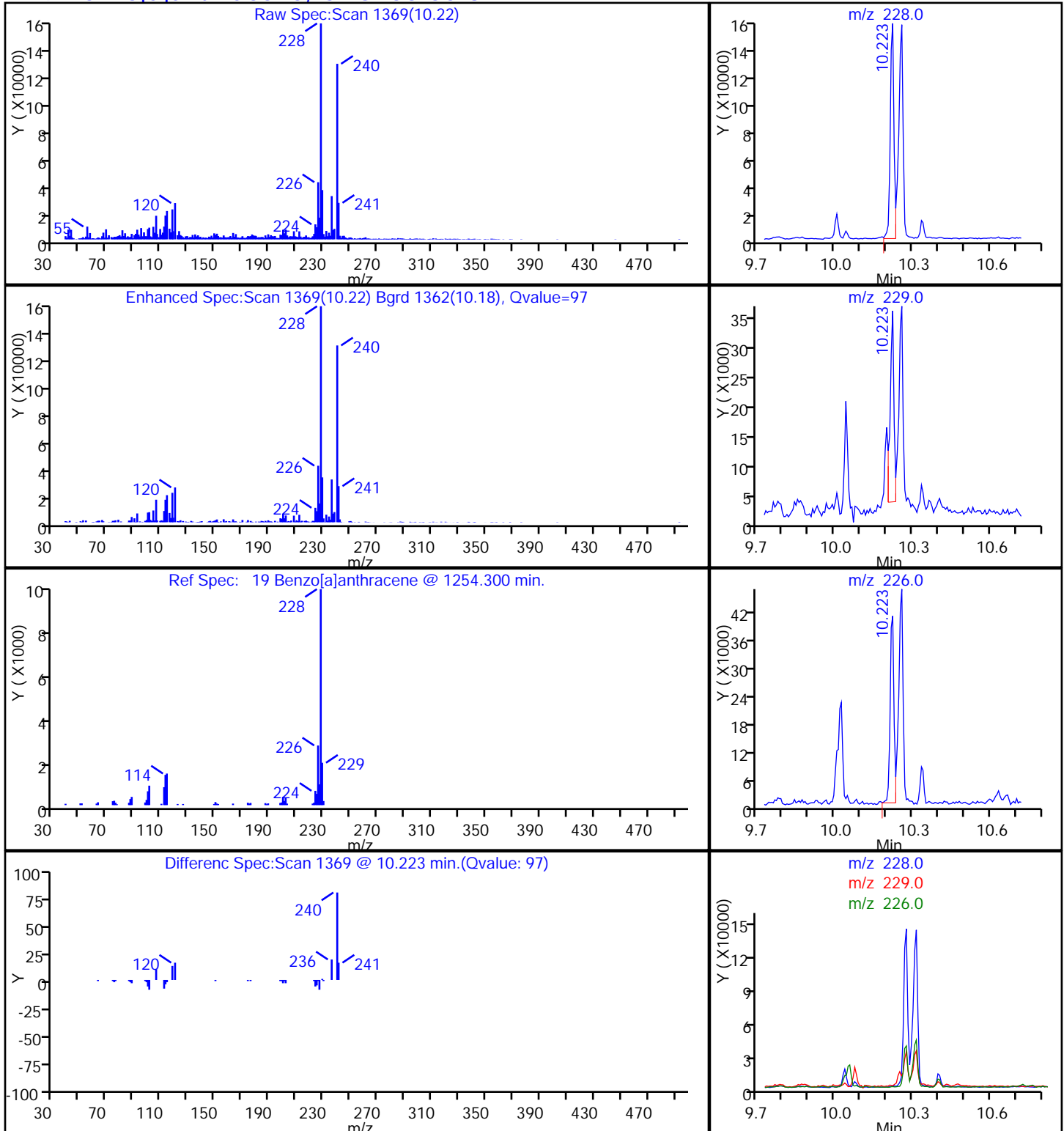
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

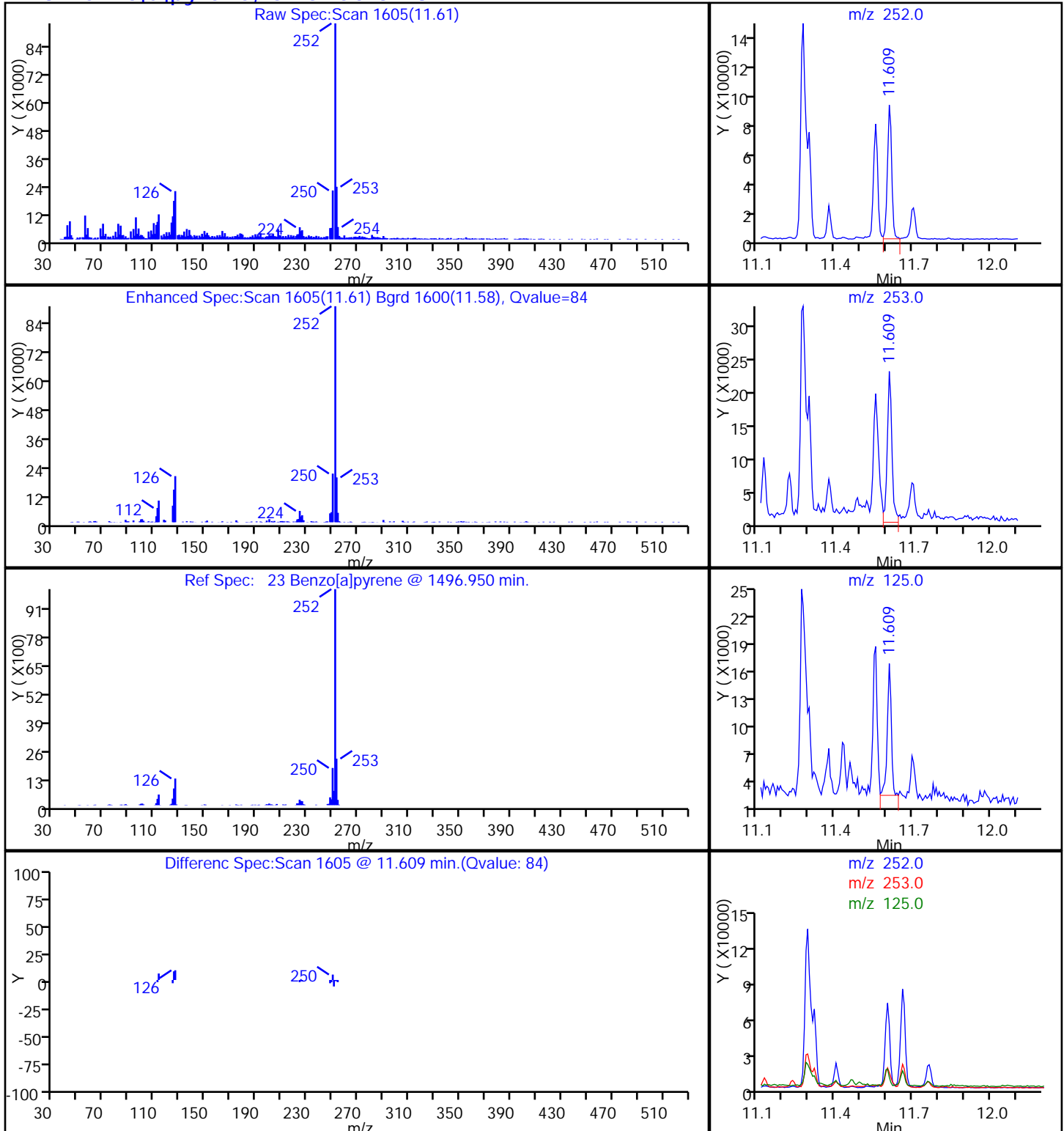
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

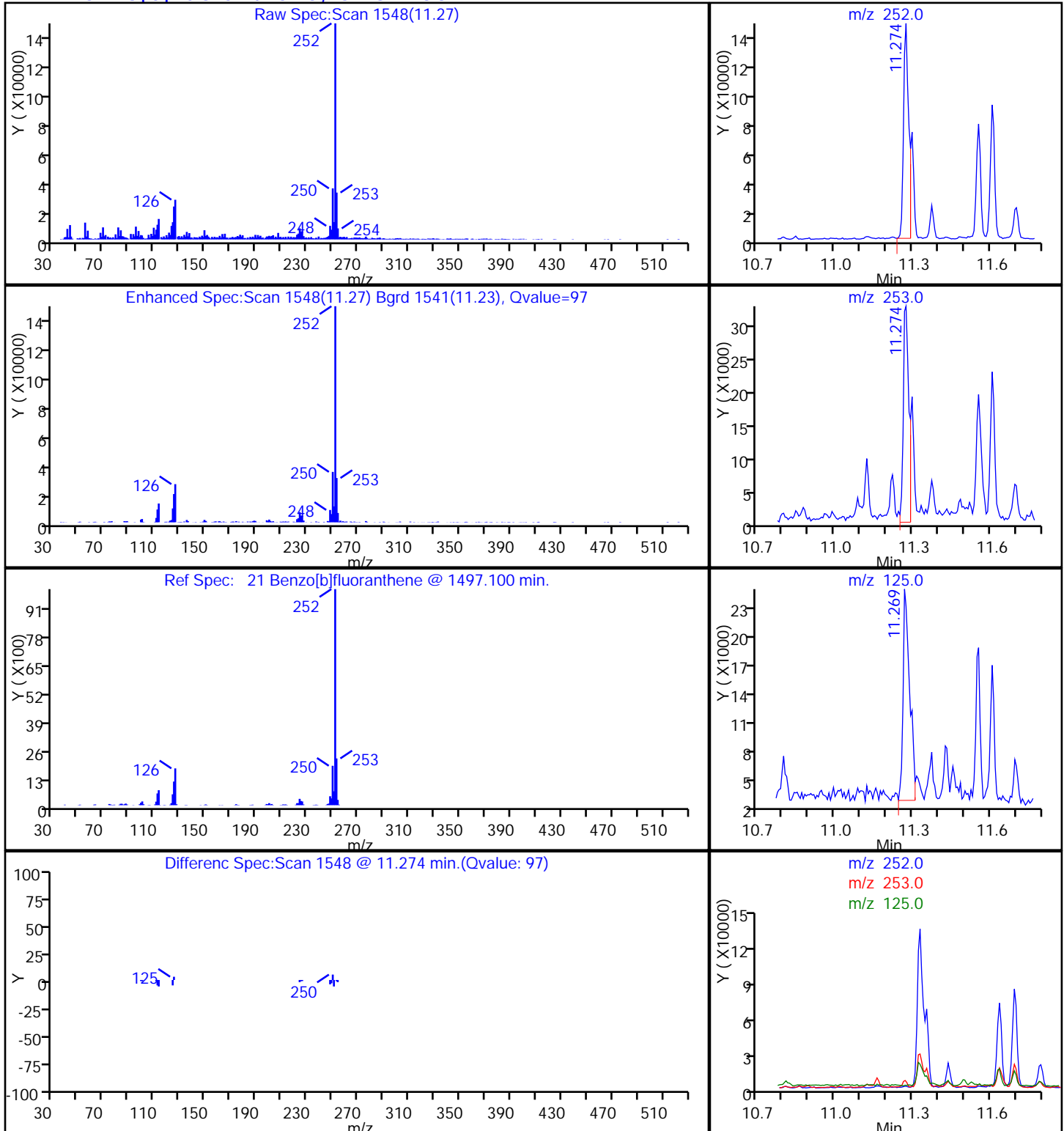
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

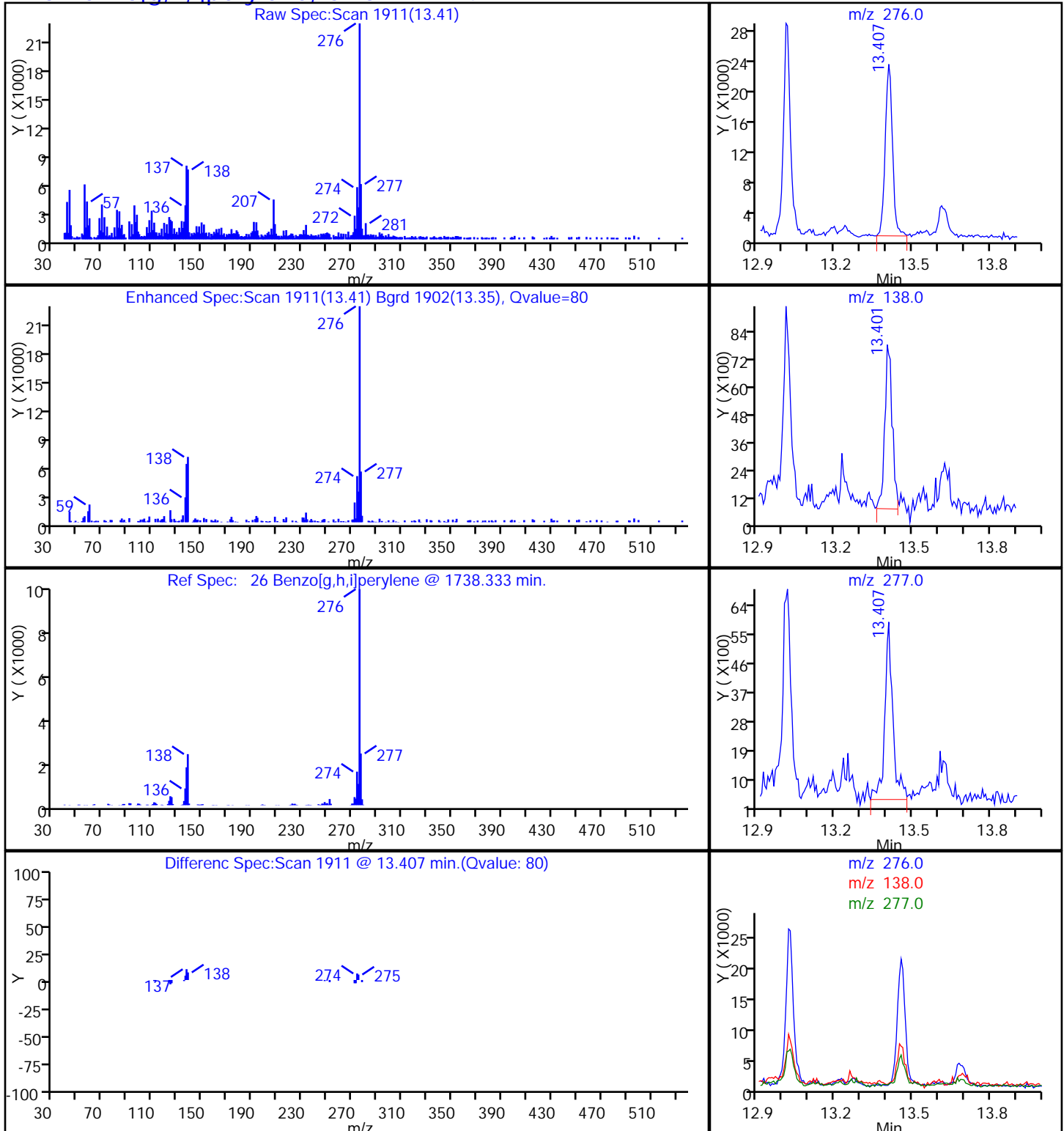
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

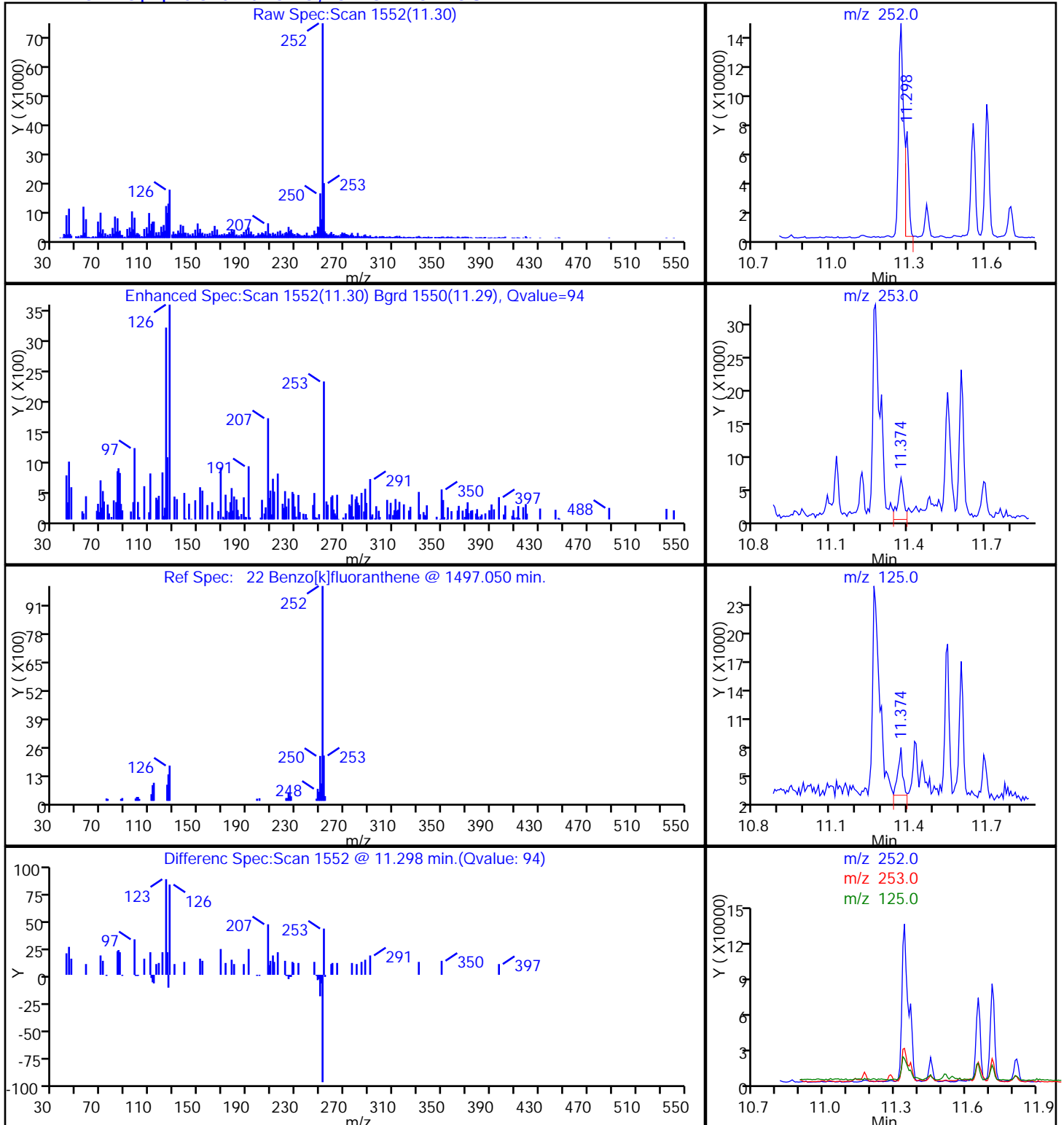
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

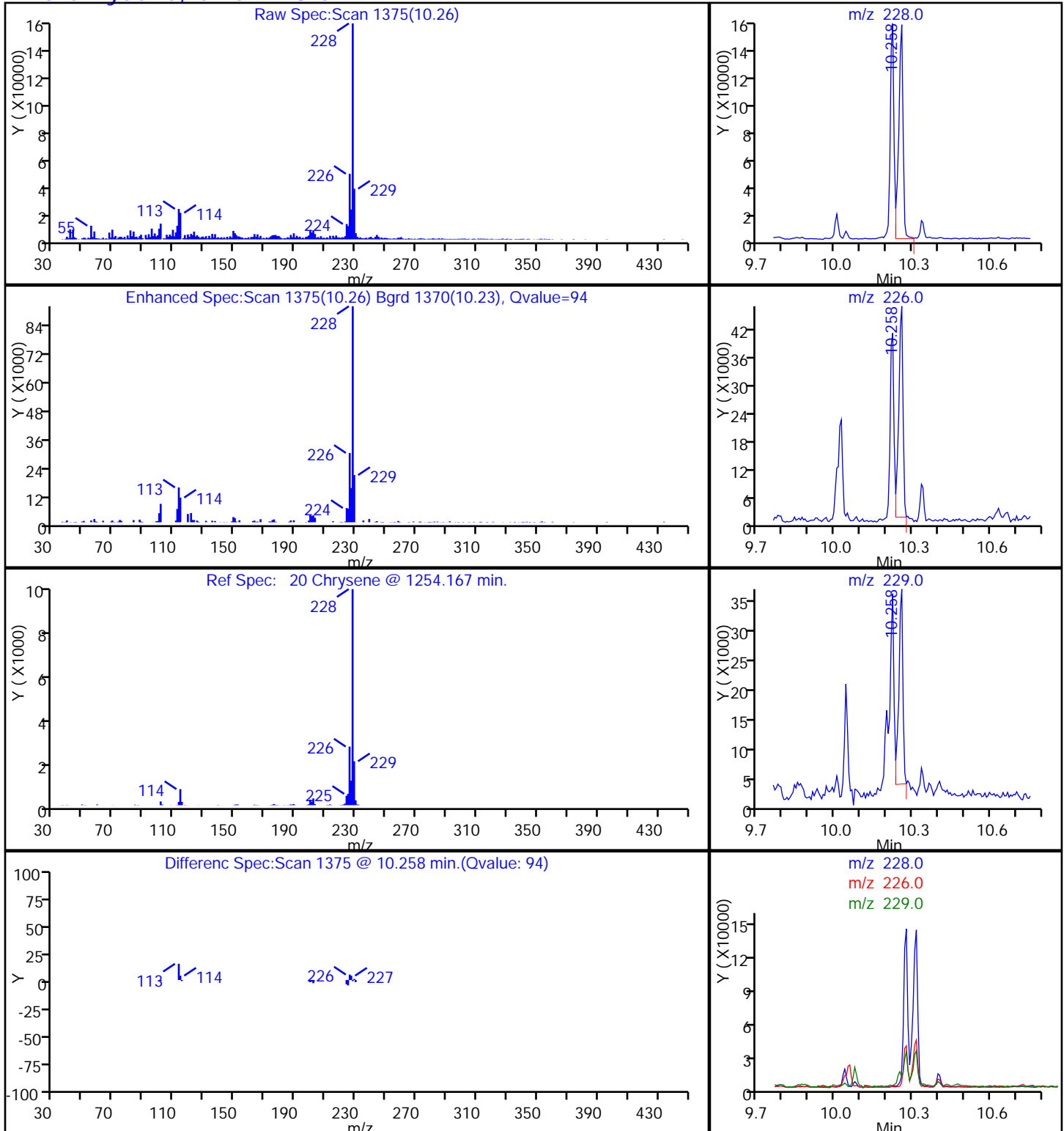
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

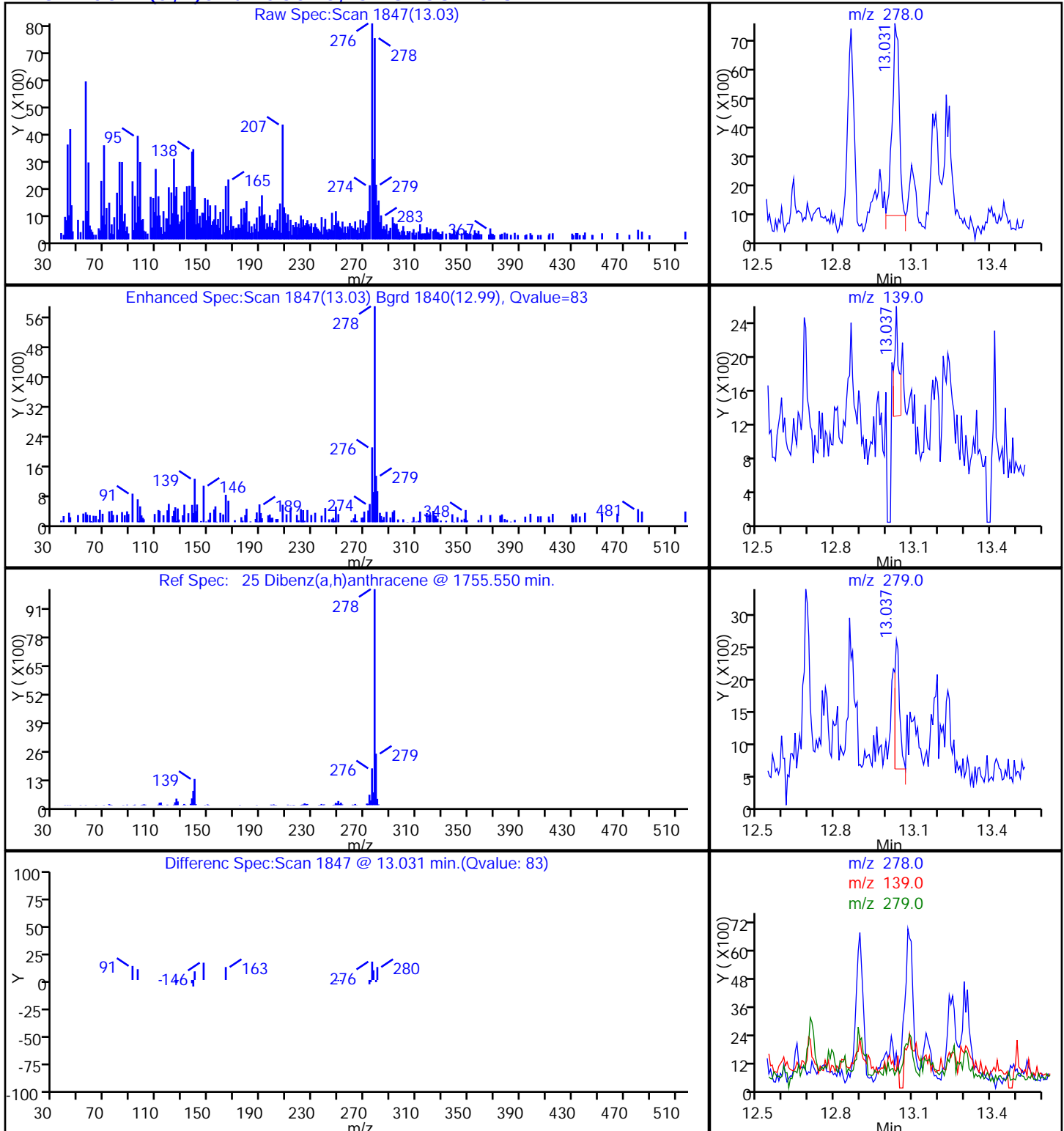
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

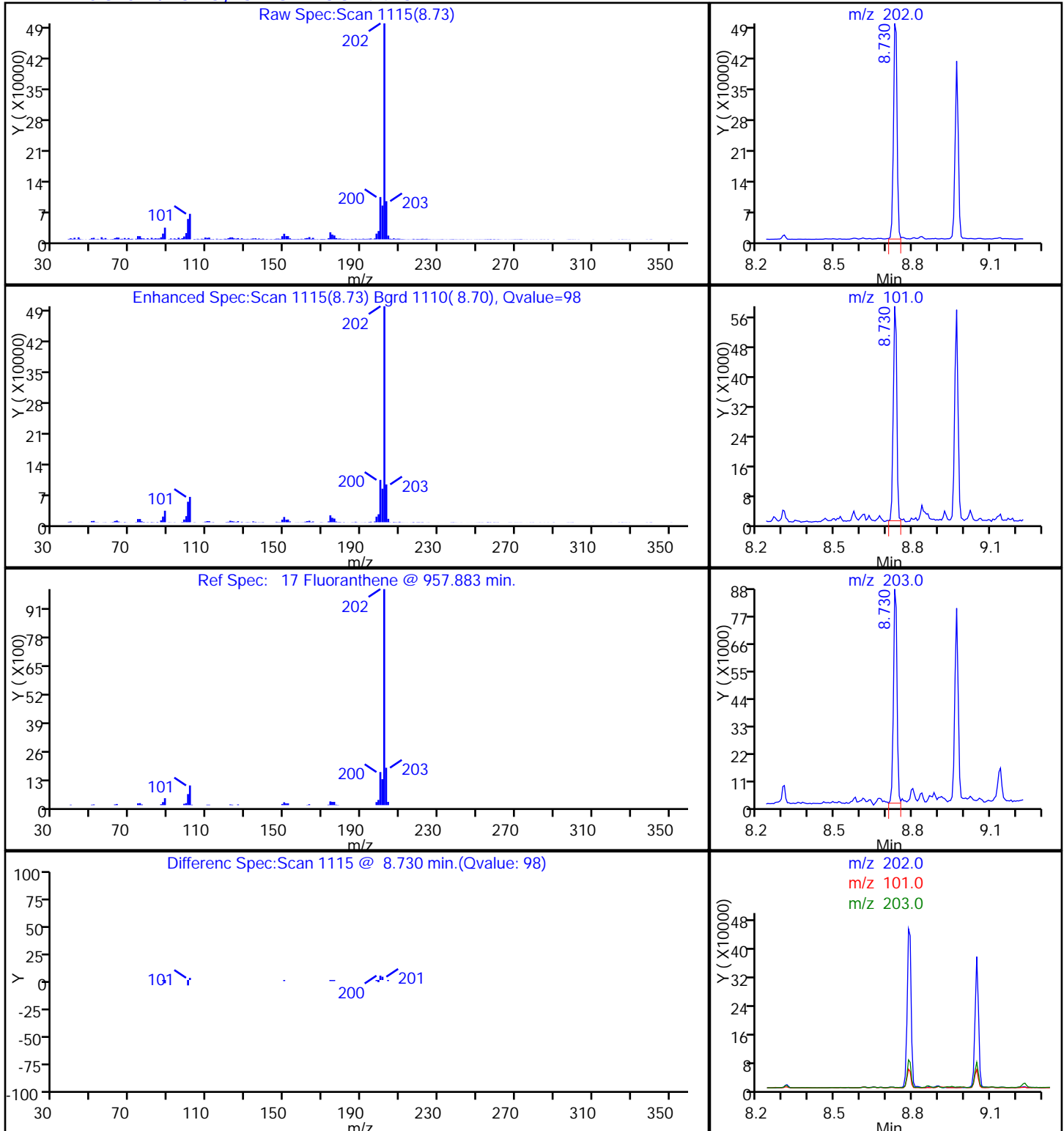
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

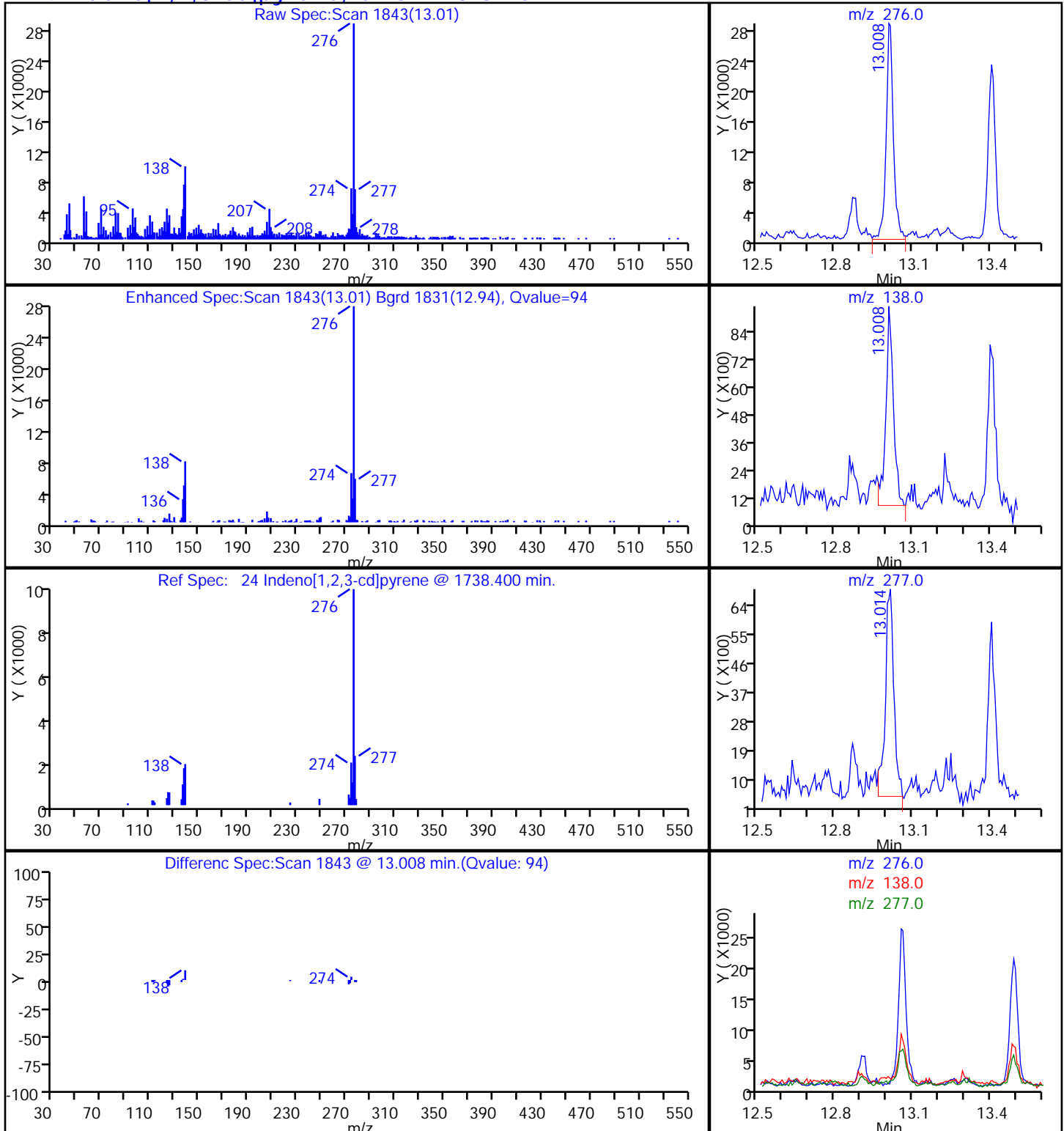
Dil. Factor: 10.0000

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

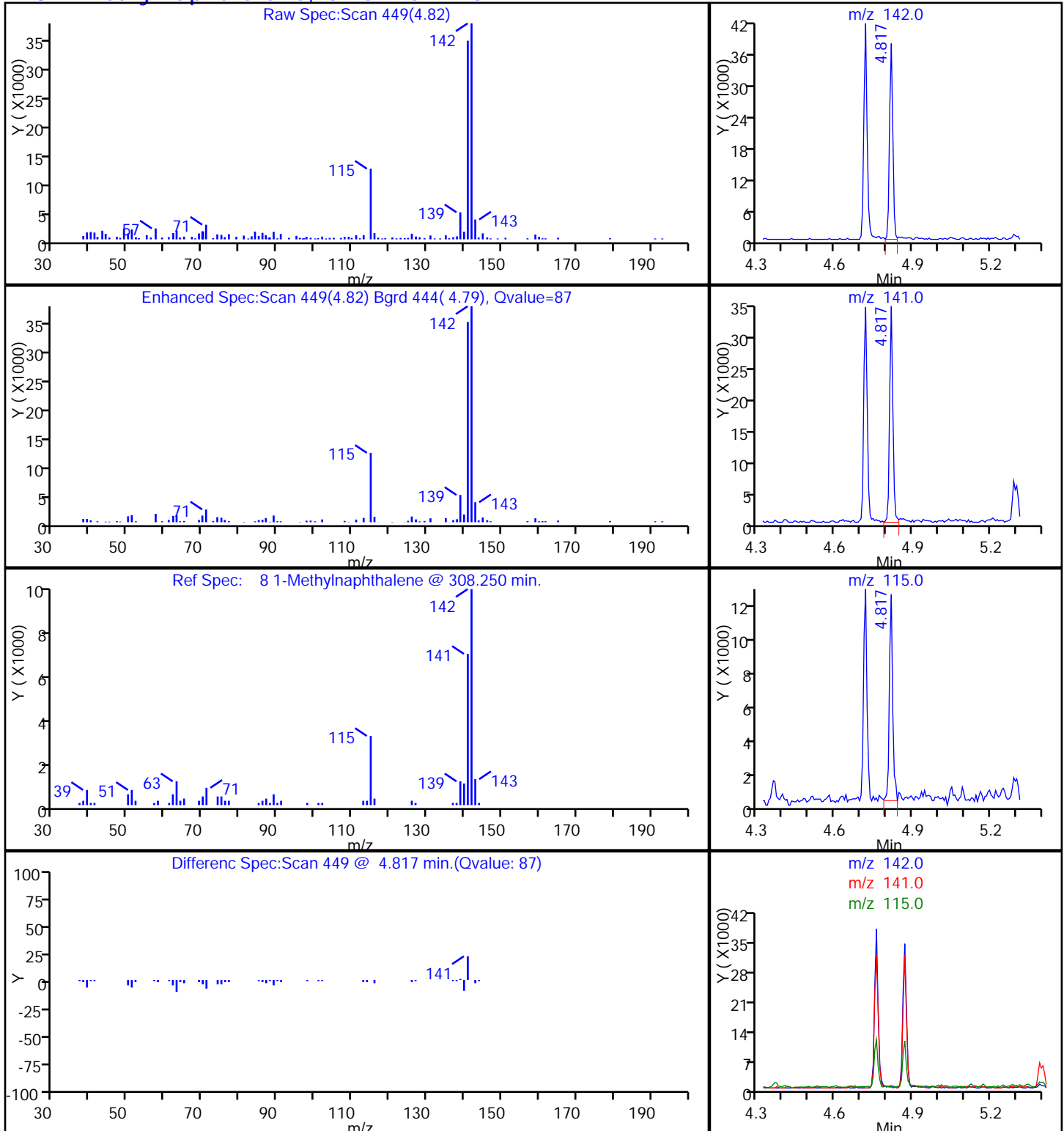
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

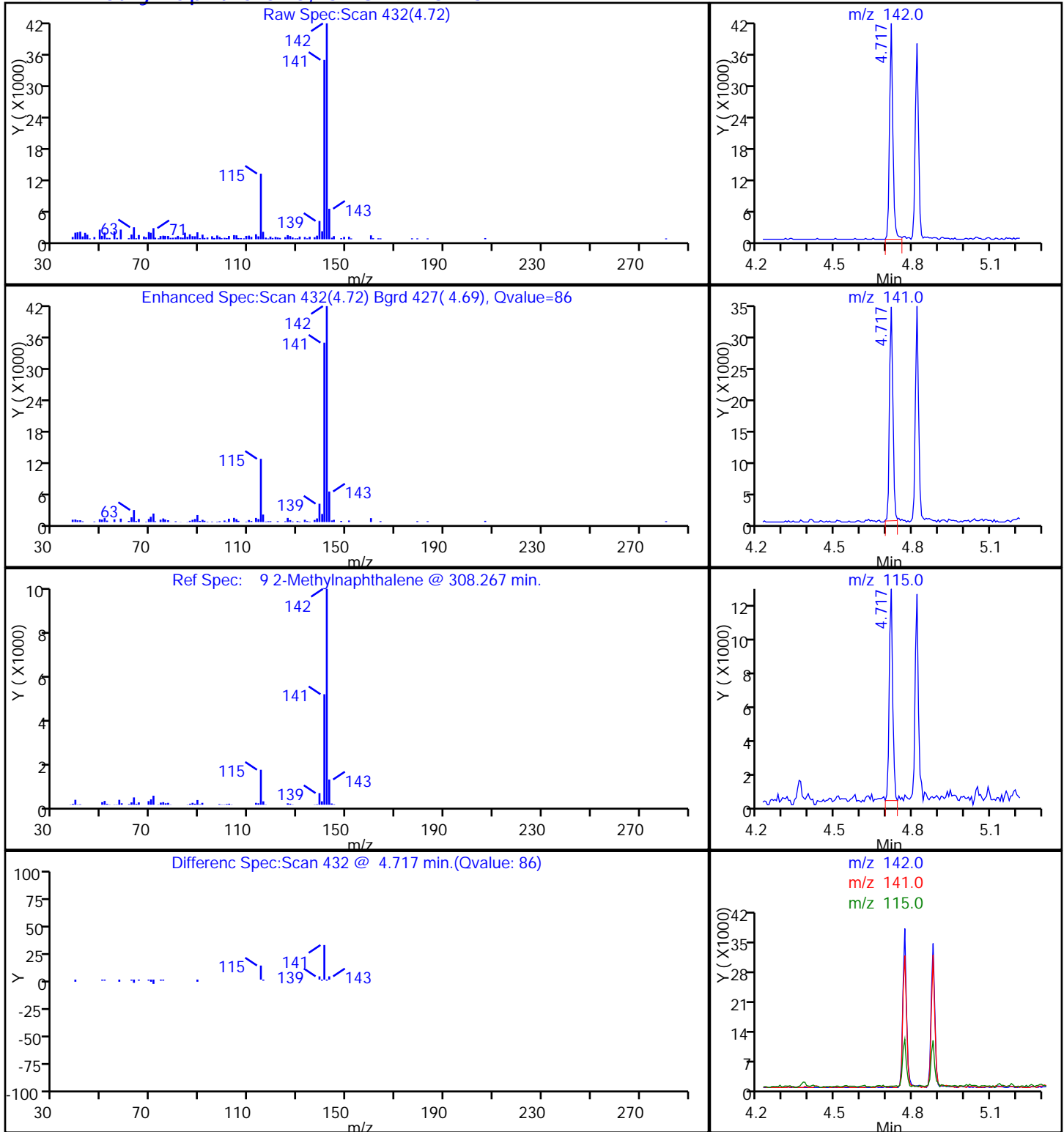
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

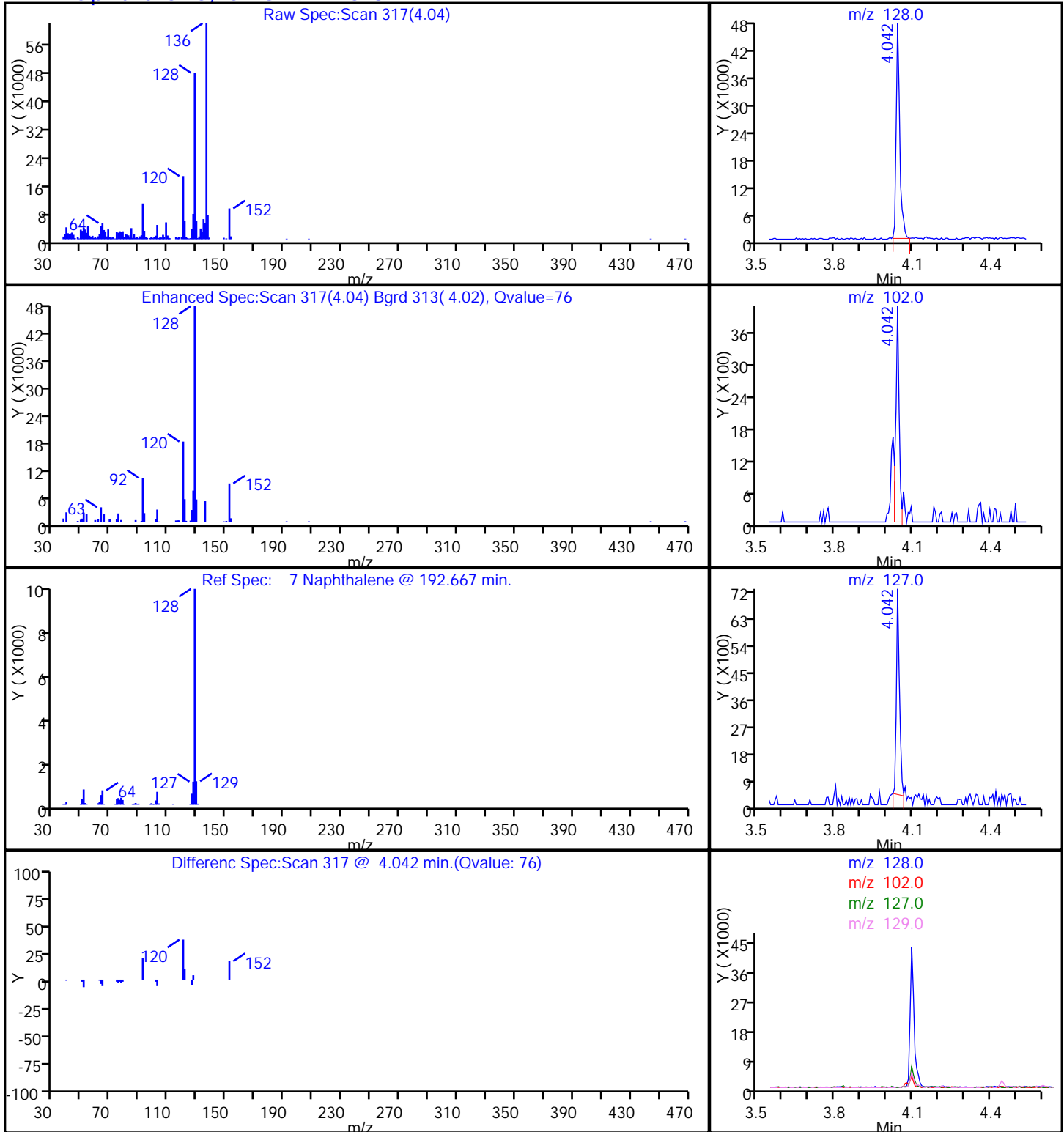
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

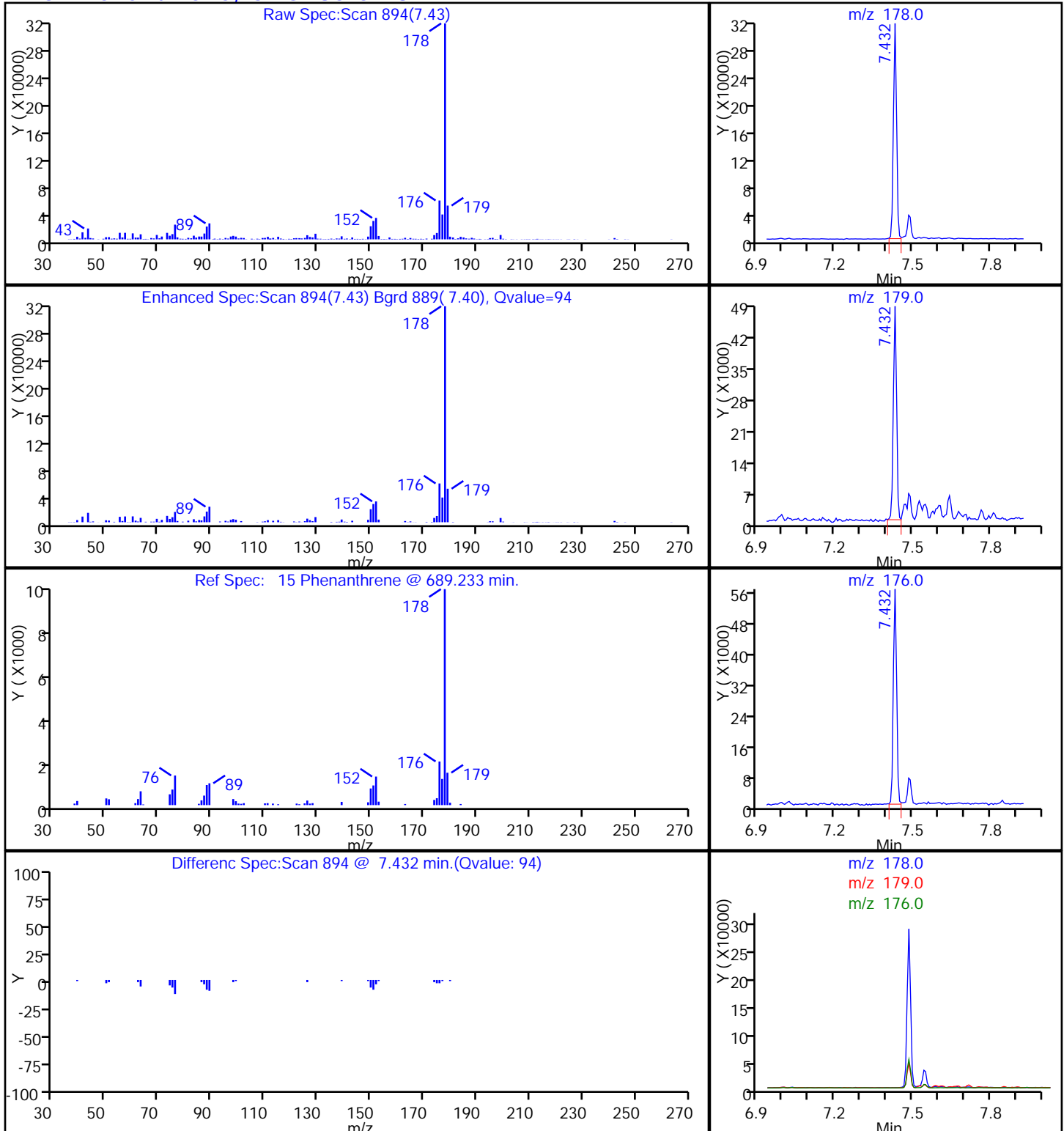
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D

Injection Date: 27-Aug-2014 01:21:30

Instrument ID: CMSK

Lims ID: 680-104534-A-17-A

Lab Sample ID: 680-104534-17

Client ID: FM0350D-CS4"

Operator ID: RM

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

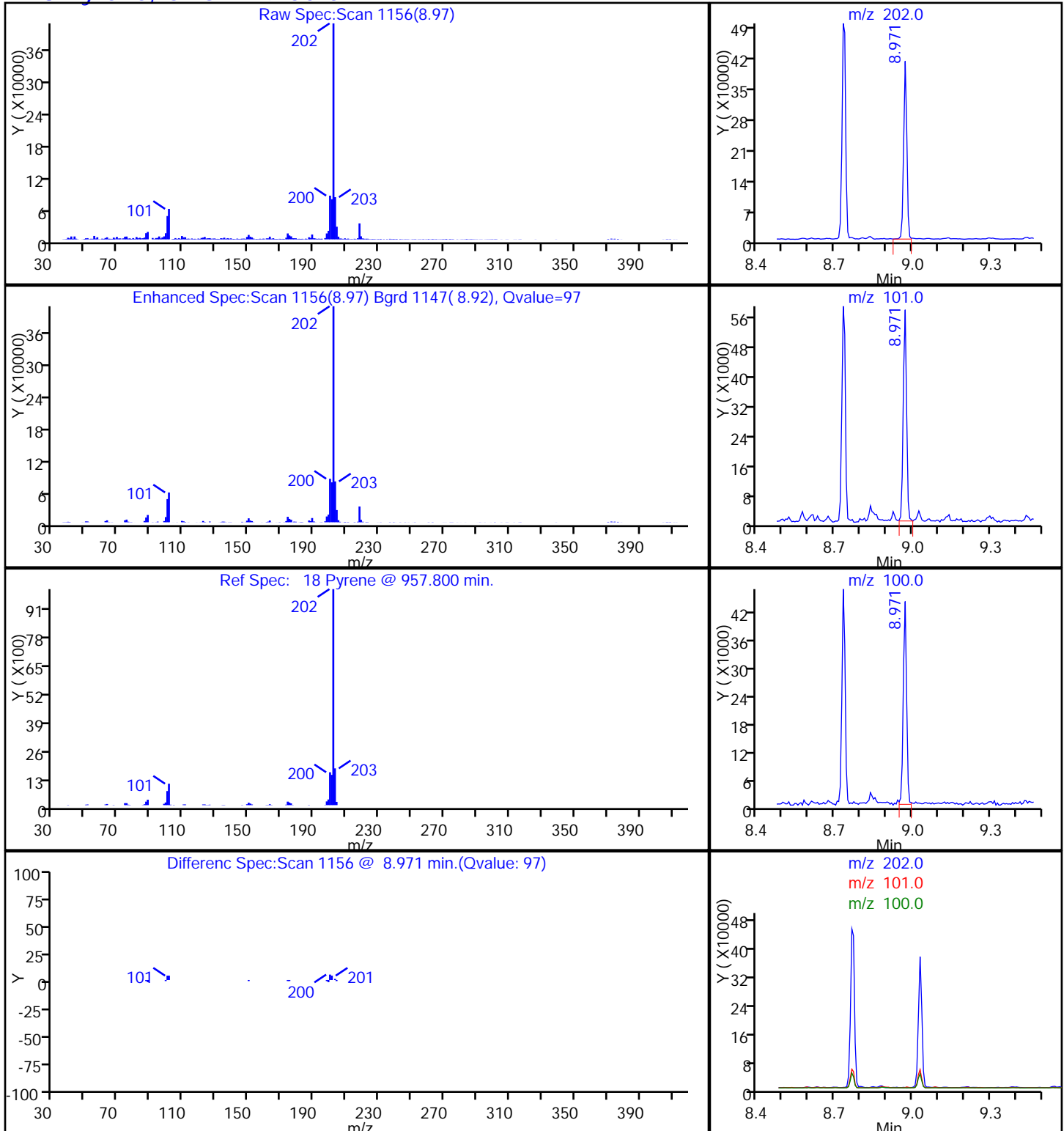
Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



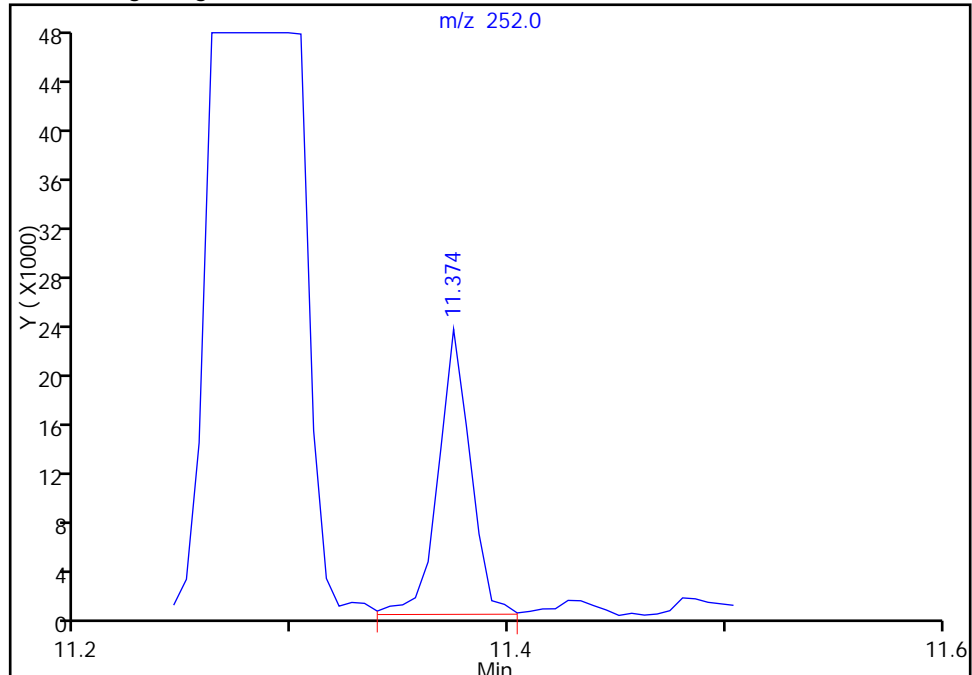
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2630.D		
Injection Date:	27-Aug-2014 01:21:30	Instrument ID:	CMSK
Lims ID:	680-104534-A-17-A	Lab Sample ID:	680-104534-17
Client ID:	FM0350D-CS4"		
Operator ID:	RM	ALS Bottle#:	30
Injection Vol:	2.0 ul	Dil. Factor:	10.0000
Method:	8270_LLPAH_CMSK	Limit Group:	8270D_LL_PAH
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector:	MS SCAN
		Worklist Smp#:	30

22 Benzo[k]fluoranthene, CAS: 207-08-9

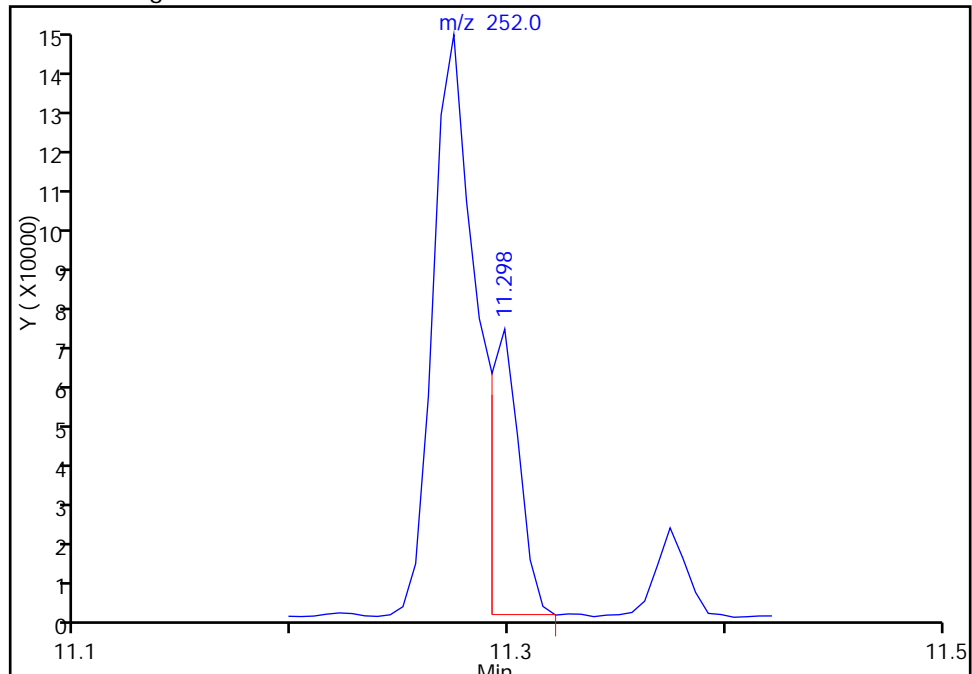
RT: 11.37
Response: 23579
Amount: 0.231263

Processing Integration Results



RT: 11.30
Response: 68859
Amount: 0.675370

Manual Integration Results



Reviewer: webbk, 27-Aug-2014 12:24:03
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>FM0350A-CSD4"</u>	Lab Sample ID: <u>680-104534-18</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2917.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/19/2014 14:50</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/29/2014 16:07</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>21.1</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>346540</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	85	U	85	42
208-96-8	Acenaphthylene	85	U	85	42
120-12-7	Anthracene	74	J	85	42
56-55-3	Benzo[a]anthracene	600		85	42
50-32-8	Benzo[a]pyrene	580		85	15
205-99-2	Benzo[b]fluoranthene	920		85	42
191-24-2	Benzo[g,h,i]perylene	420		85	42
207-08-9	Benzo[k]fluoranthene	400		85	25
218-01-9	Chrysene	700		85	42
53-70-3	Dibenz(a,h)anthracene	160		85	42
206-44-0	Fluoranthene	1100		85	42
86-73-7	Fluorene	85	U	85	42
193-39-5	Indeno[1,2,3-cd]pyrene	330		85	42
90-12-0	1-Methylnaphthalene	71	J	85	39
91-57-6	2-Methylnaphthalene	79	J	85	42
91-20-3	Naphthalene	62	J	85	42
85-01-8	Phenanthrene	440		85	30
129-00-0	Pyrene	820		85	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D
 Lims ID: 680-104534-A-18-A Lab Sample ID: 680-104534-18
 Client ID: FM0350A-CSD4"
 Sample Type: Client
 Inject. Date: 29-Aug-2014 16:07:30 ALS Bottle#: 16 Worklist Smp#: 17
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104574-A-18-A DL=10
 Misc. Info.: 680-0012365-017
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 02-Sep-2014 16:06:14 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK008

First Level Reviewer: moorer

Date: 03-Sep-2014 13:19:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.212	4.212	0.000	99	291539	2.00	
* 2 Acenaphthene-d10	164	6.046	6.046	0.000	91	159390	2.00	
* 3 Phenanthrene-d10	188	7.704	7.704	0.000	98	257616	2.00	
* 4 Chrysene-d12	240	10.598	10.598	0.000	99	211072	2.00	
* 5 Perylene-d12	264	12.197	12.192	0.005	98	148986	2.00	
7 Naphthalene	128	4.233	4.233	0.000	87	22248	0.1467	
8 2-Methylnaphthalene	142	4.928	4.929	-0.001	82	17600	0.1869	
9 1-Methylnaphthalene	142	5.030	5.030	0.000	80	15494	0.1676	
11 Acenaphthylene	152	5.891	5.891	0.000	92	10977	0.0756	
12 Acenaphthene	153	6.084	6.084	0.000	49	5442	0.0576	
14 Fluorene	166	6.656	6.656	0.000	65	5597	0.0608	
15 Phenanthrene	178	7.731	7.731	0.000	97	149442	1.03	
16 Anthracene	178	7.790	7.790	0.000	93	23824	0.1755	
17 Fluoranthene	202	9.063	9.063	0.000	98	376917	2.63	
18 Pyrene	202	9.309	9.309	0.000	97	294409	1.94	
19 Benzo[a]anthracene	228	10.587	10.587	0.000	95	162416	1.42	
20 Chrysene	228	10.619	10.625	-0.006	72	183018	1.65	
21 Benzo[b]fluoranthene	252	11.732	11.727	0.005	97	207001	2.19	M
22 Benzo[k]fluoranthene	252	11.748	11.759	-0.011	52	85797	0.9585	M
23 Benzo[a]pyrene	252	12.128	12.128	0.000	97	106402	1.37	
24 Indeno[1,2,3-cd]pyrene	276	13.791	13.791	0.000	99	67469	0.7820	
25 Dibenzo(a,h)anthracene	278	13.807	13.818	-0.011	56	21506	0.3749	
26 Benzo[g,h,i]perylene	276	14.278	14.273	0.005	81	63584	0.9900	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Worklist Smp#: 17

Client ID: FM0350A-CSD4"

Injection Vol: 2.0 ul

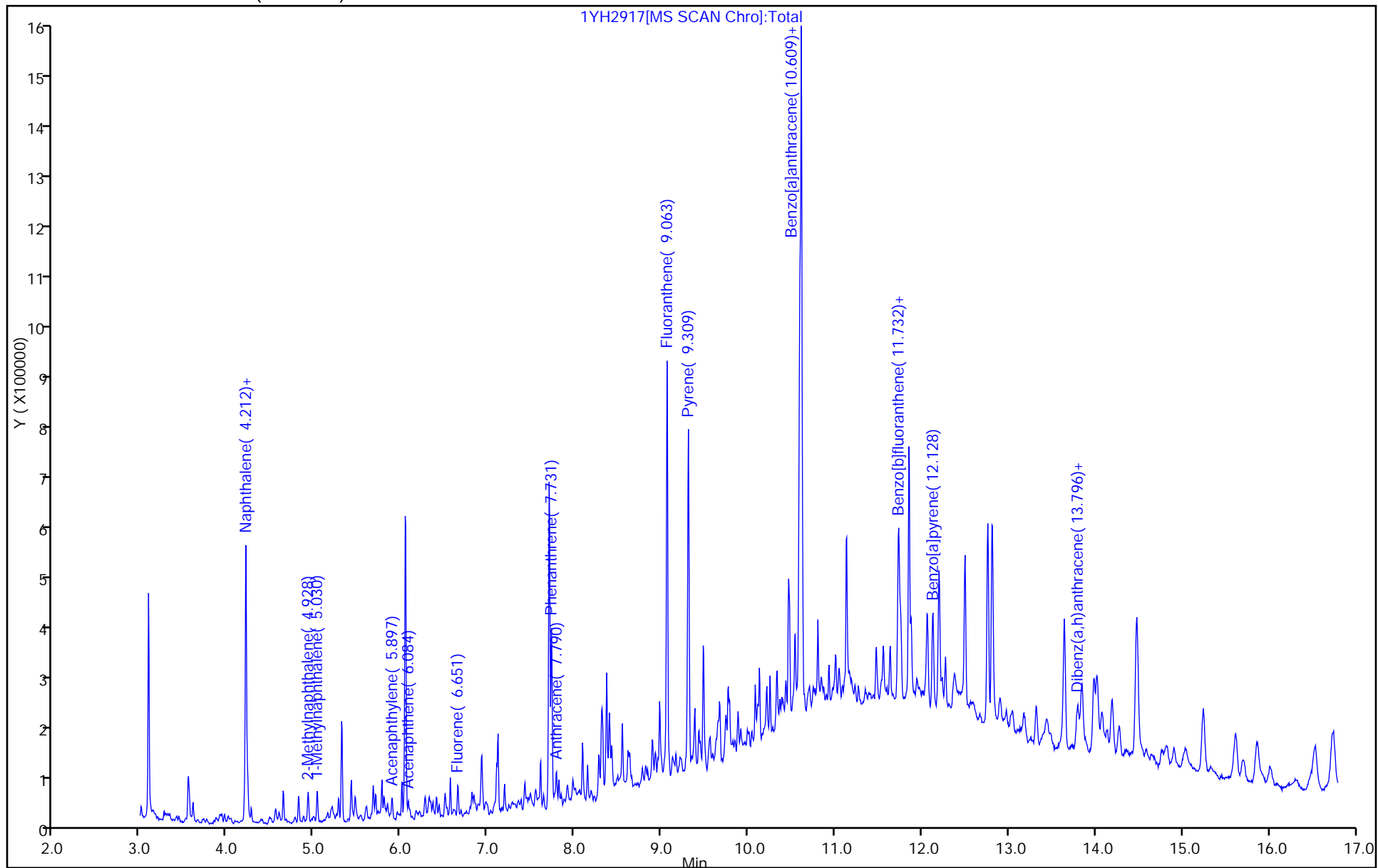
Dil. Factor: 10.0000

ALS Bottle#: 16

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

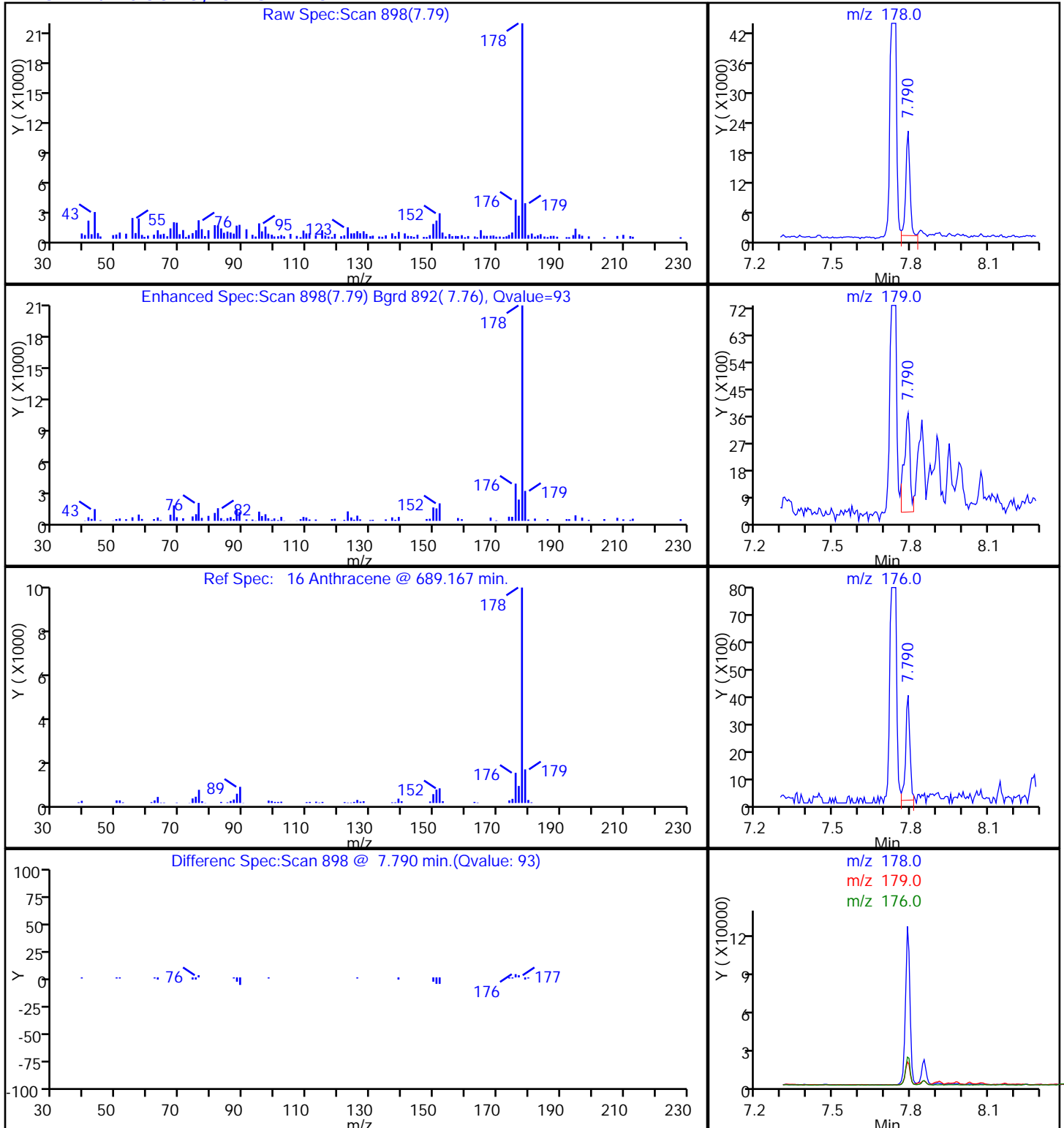
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

16 Anthracene, CAS: 120-12-7

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

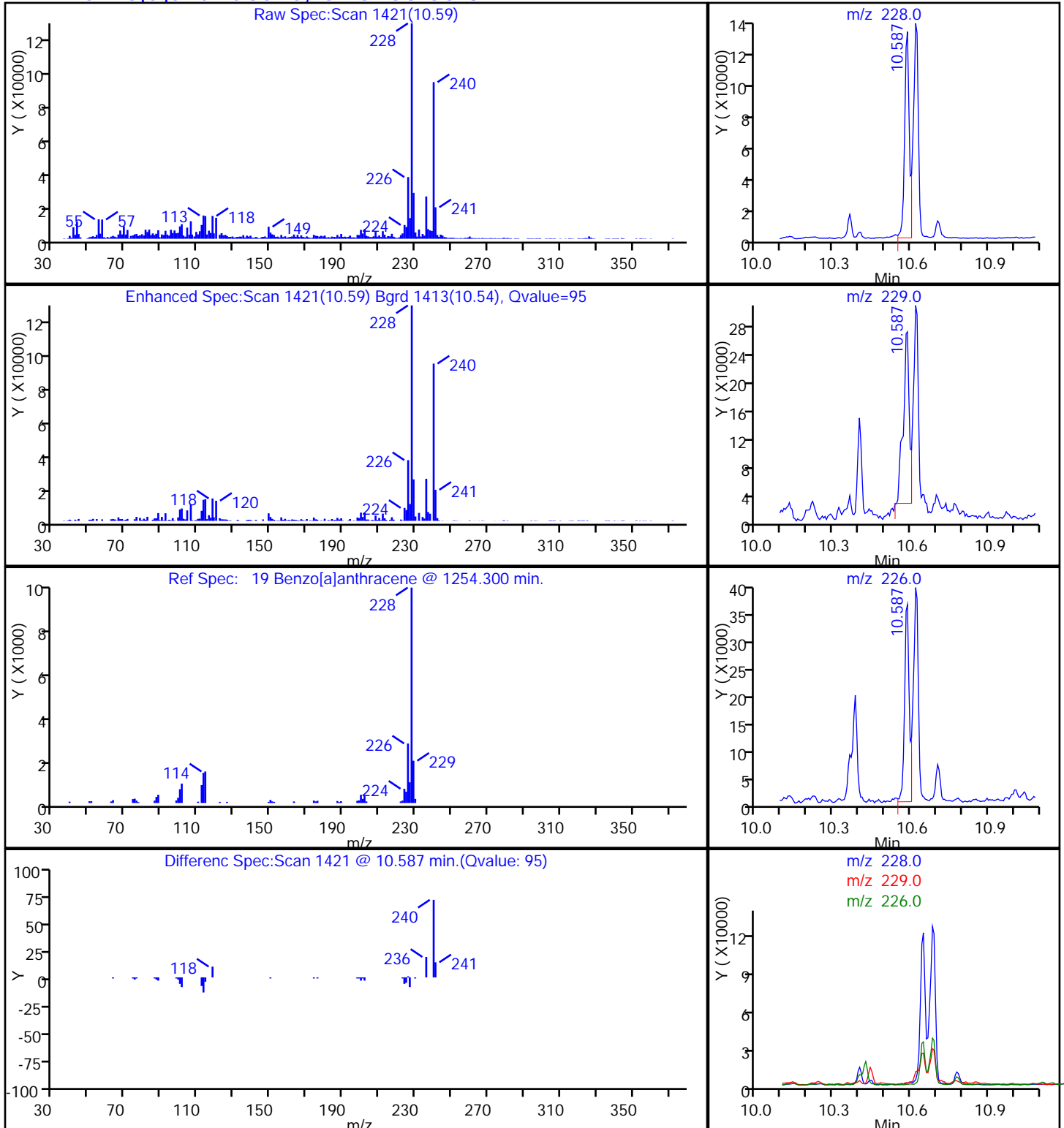
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

19 Benzo[a]anthracene, CAS: 56-55-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

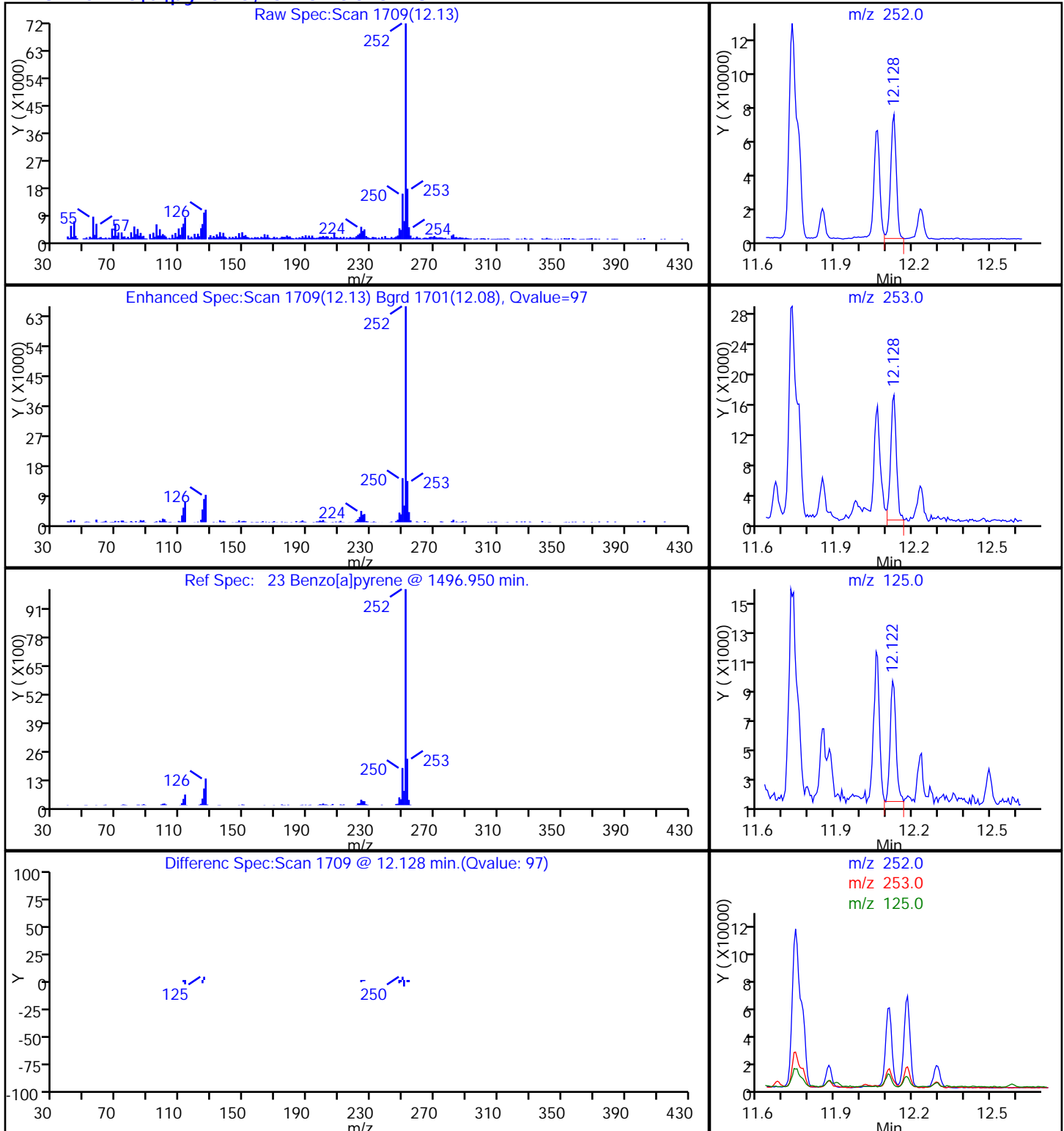
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

23 Benzo[a]pyrene, CAS: 50-32-8

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

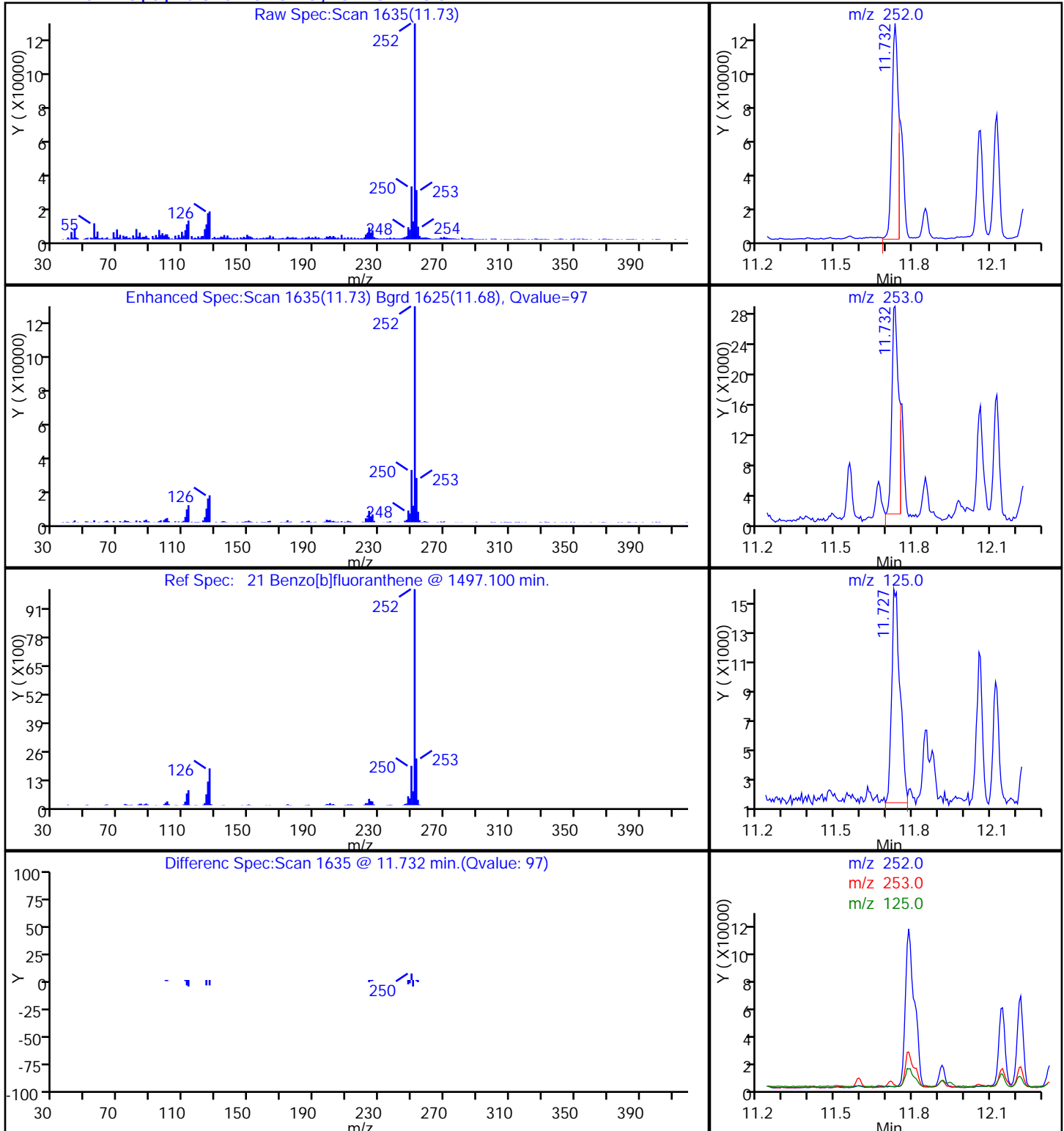
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

21 Benzo[b]fluoranthene, CAS: 205-99-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

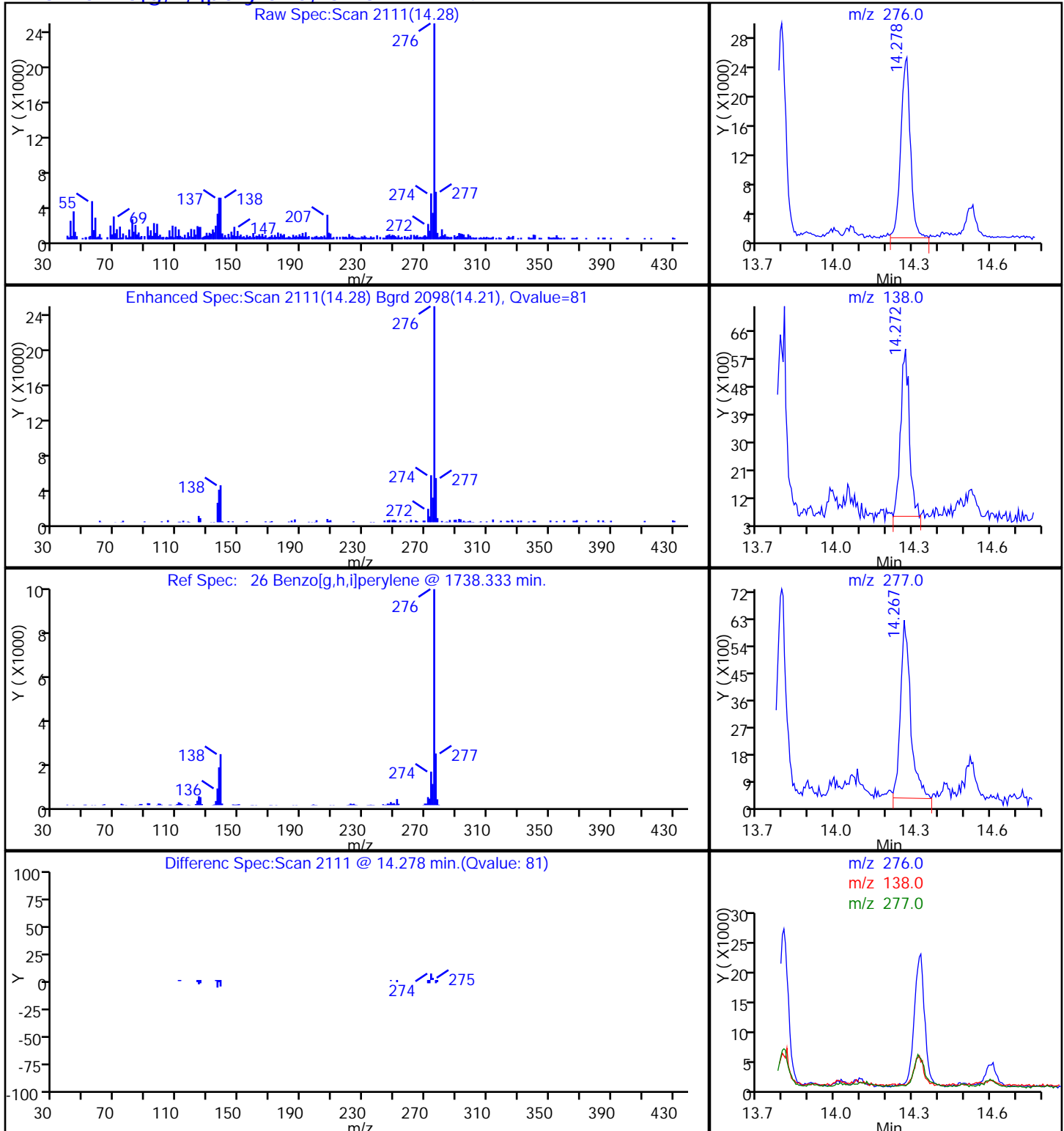
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

26 Benzo[g,h,i]perylene, CAS: 191-24-2

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

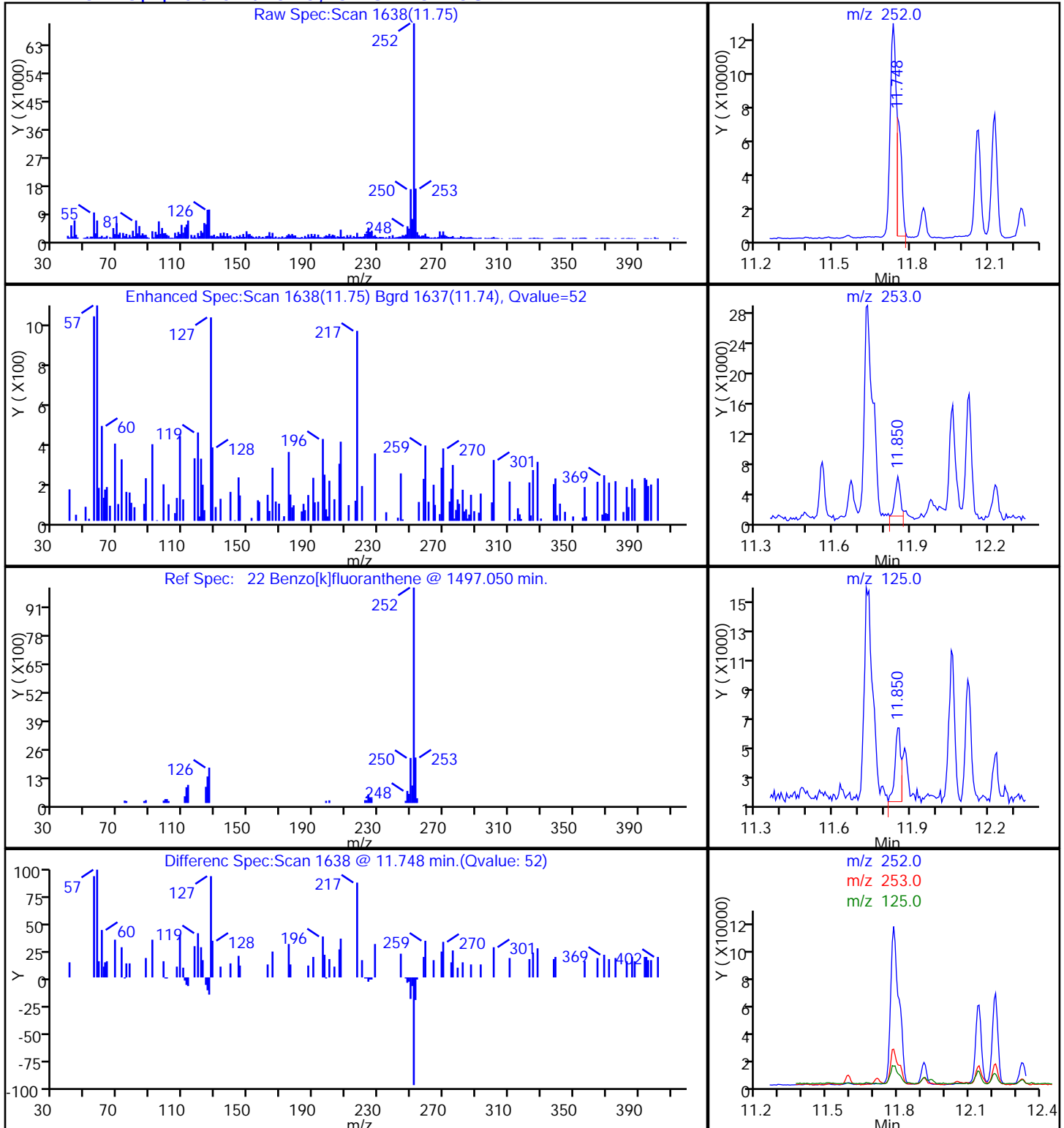
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

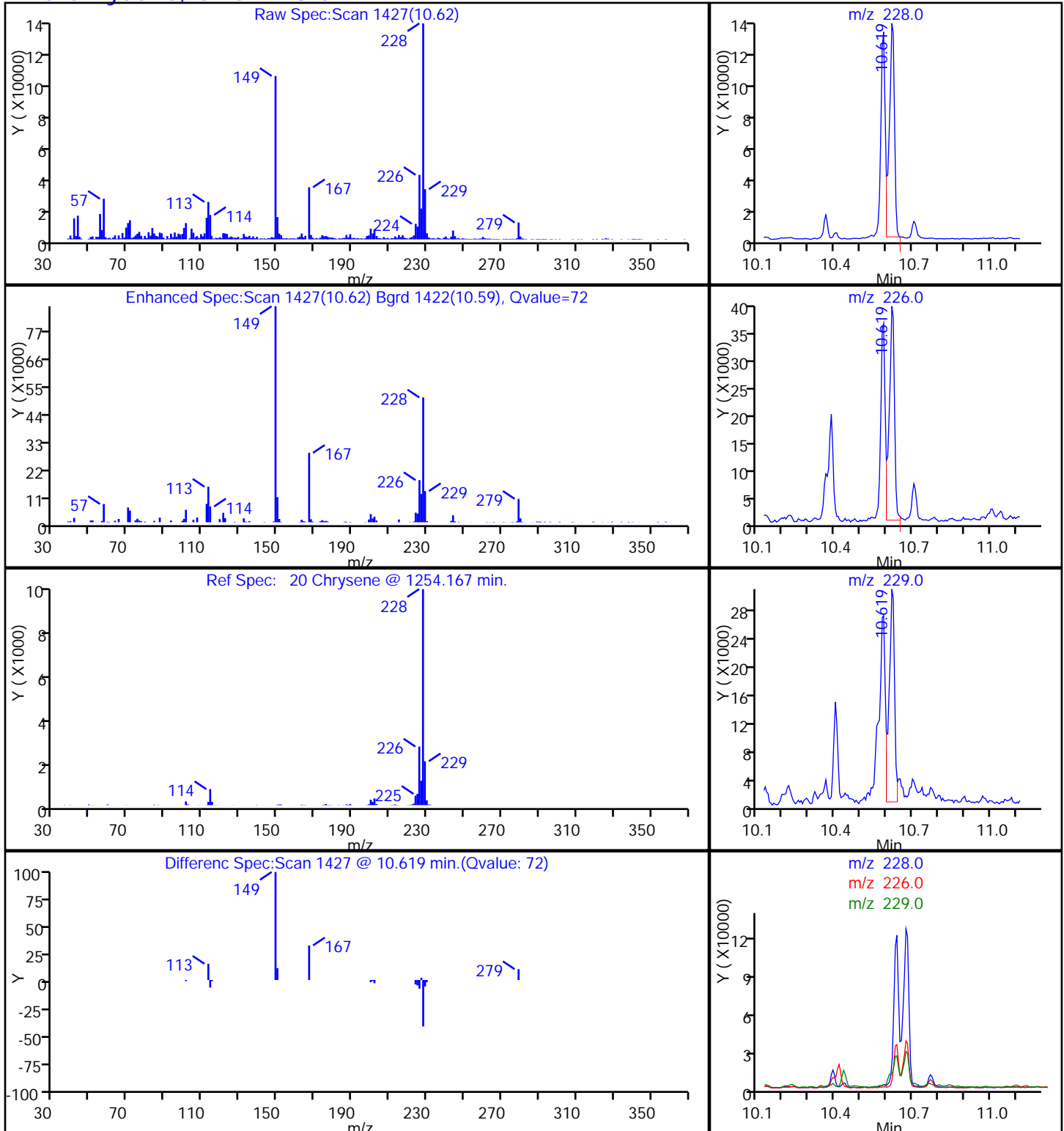
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

20 Chrysene, CAS: 218-01-9



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

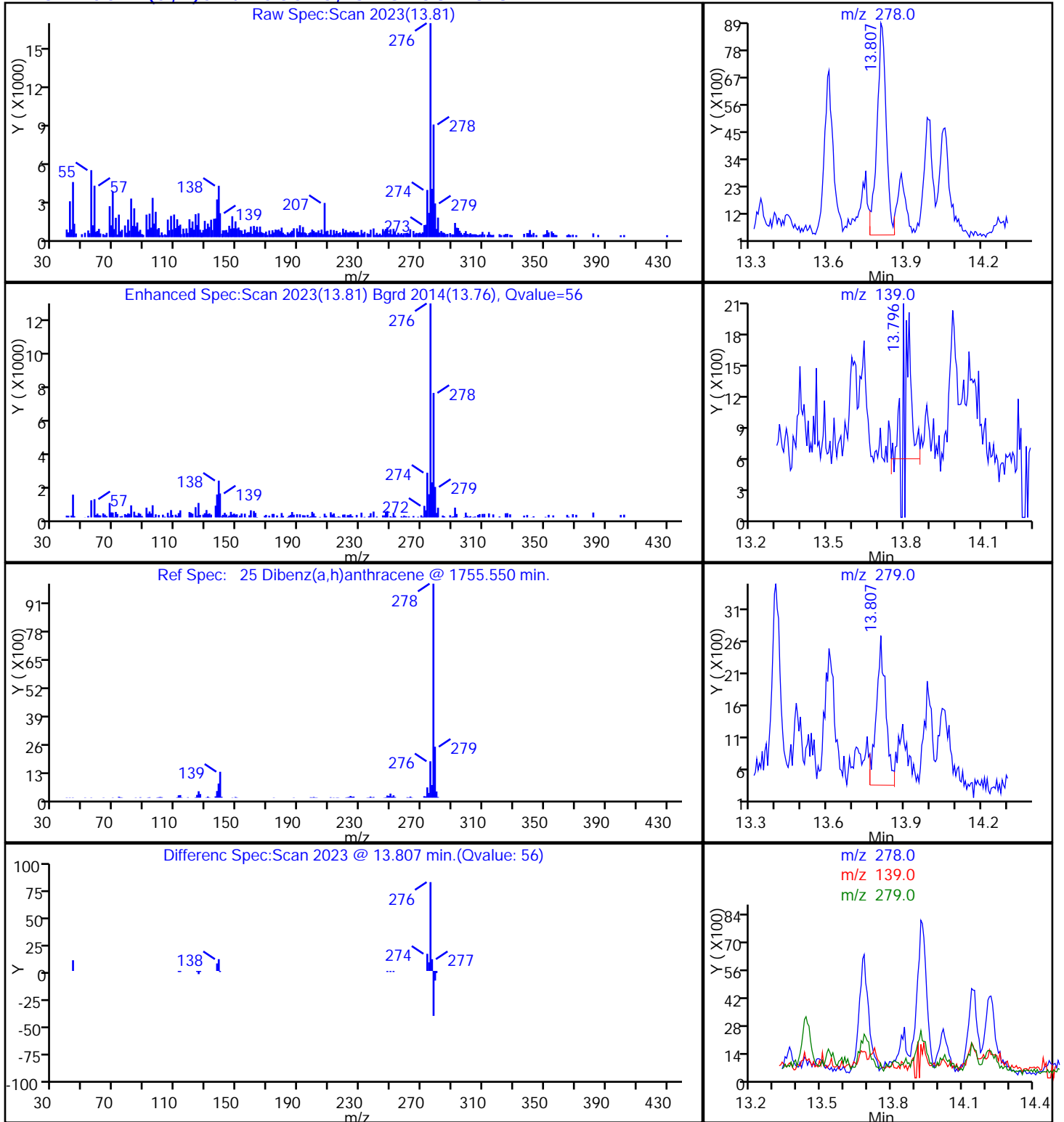
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

25 Dibenz(a,h)anthracene, CAS: 53-70-3

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

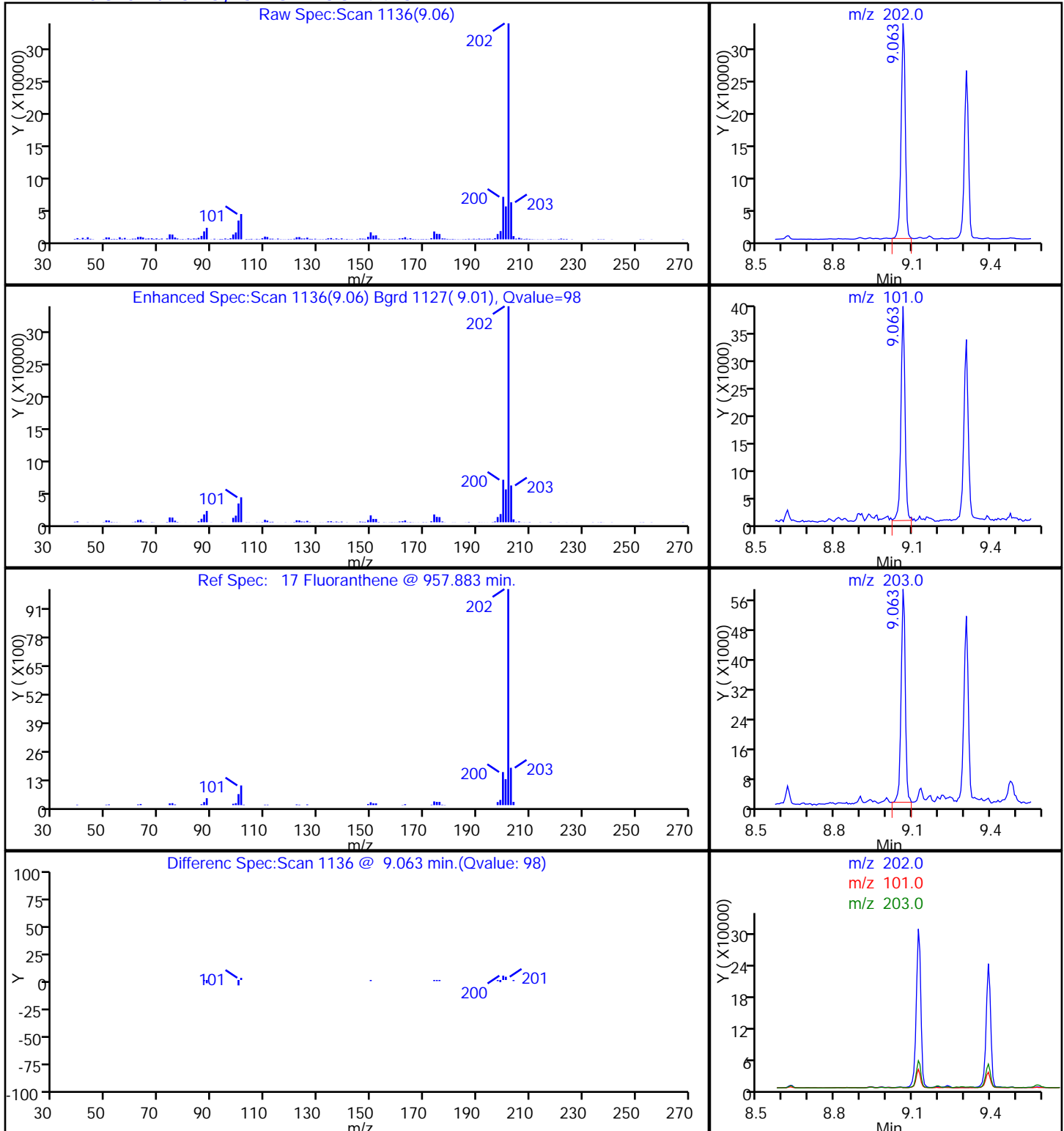
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

17 Fluoranthene, CAS: 206-44-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

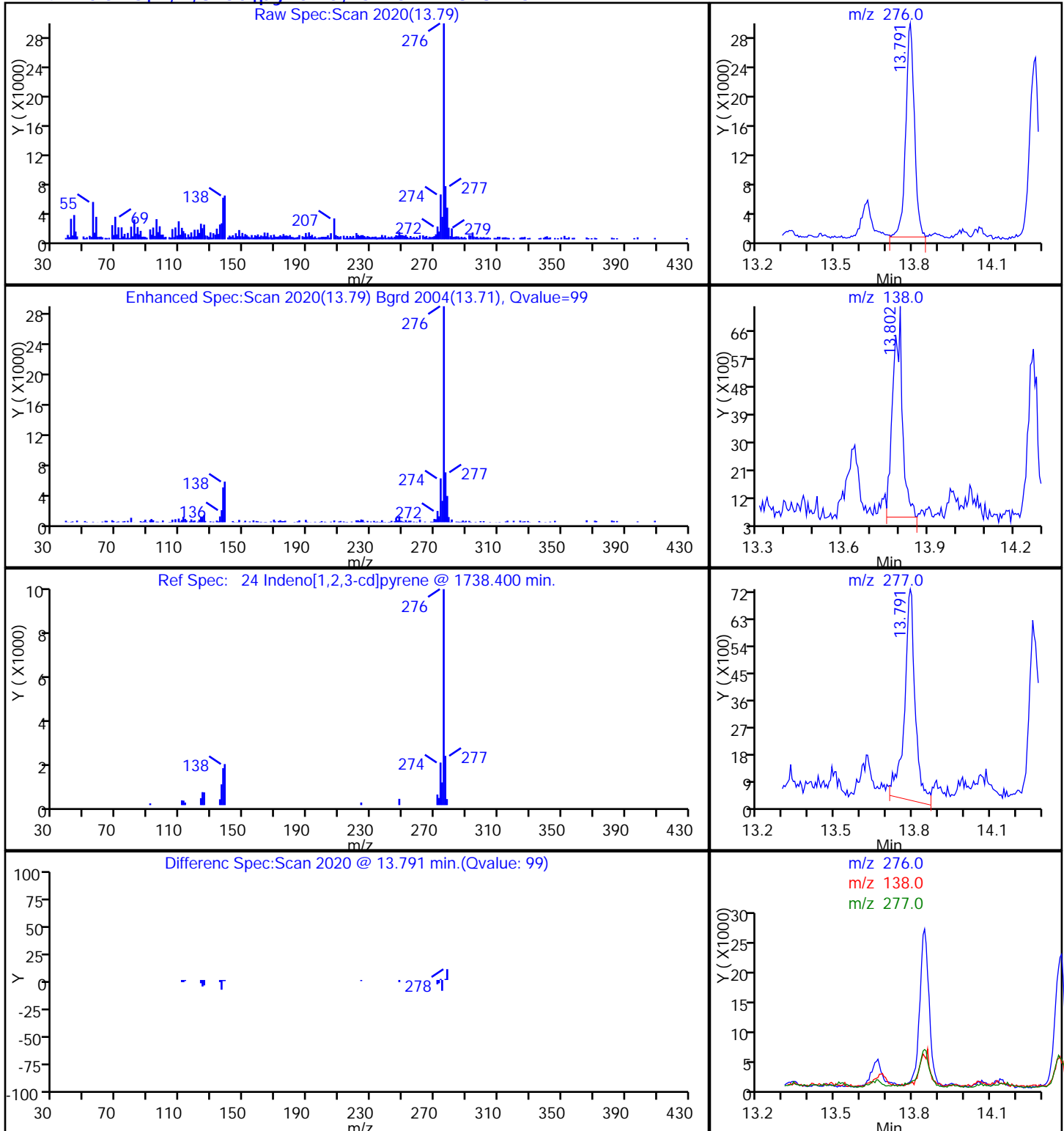
Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

24 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

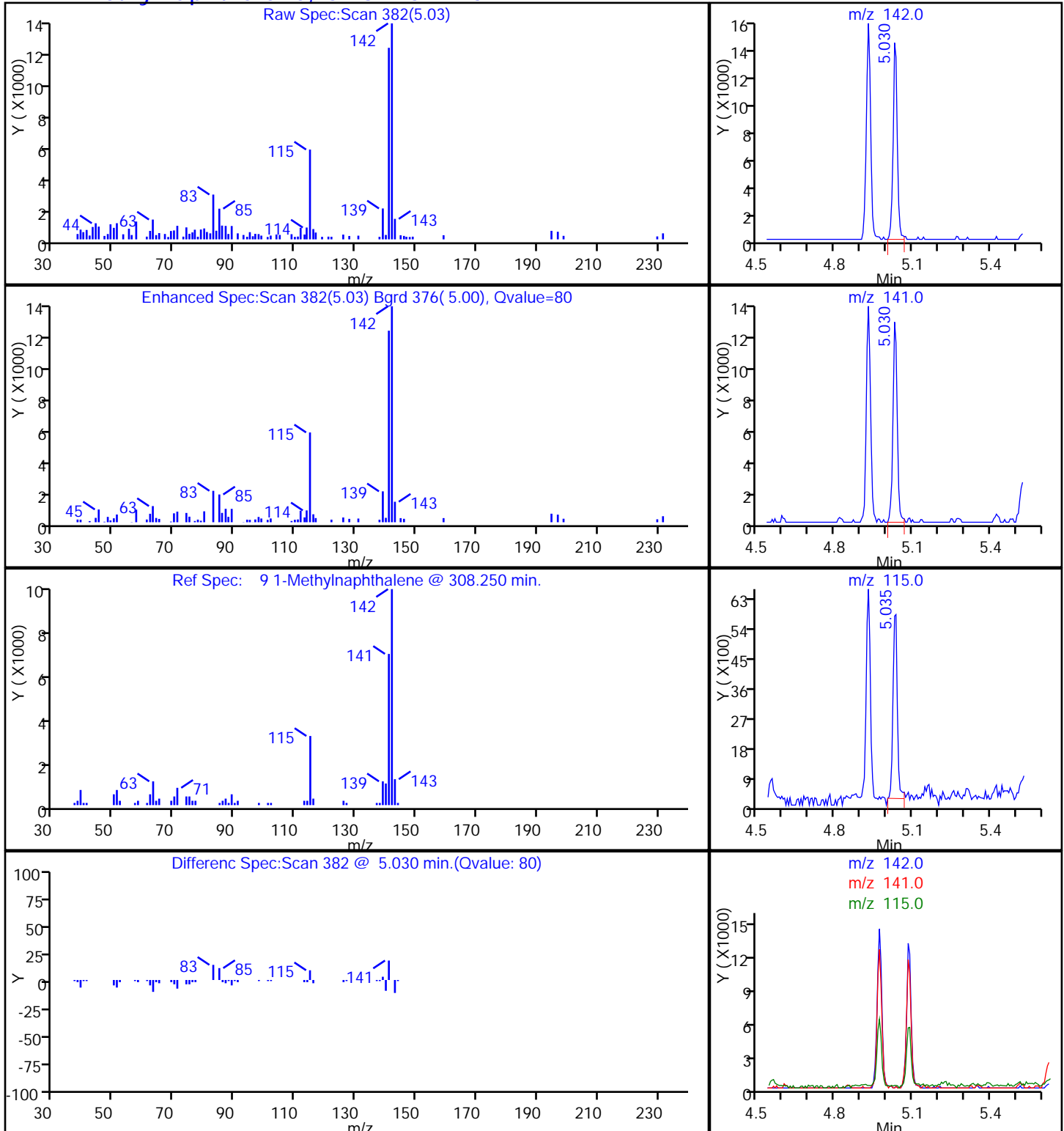
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

9 1-Methylnaphthalene, CAS: 90-12-0



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

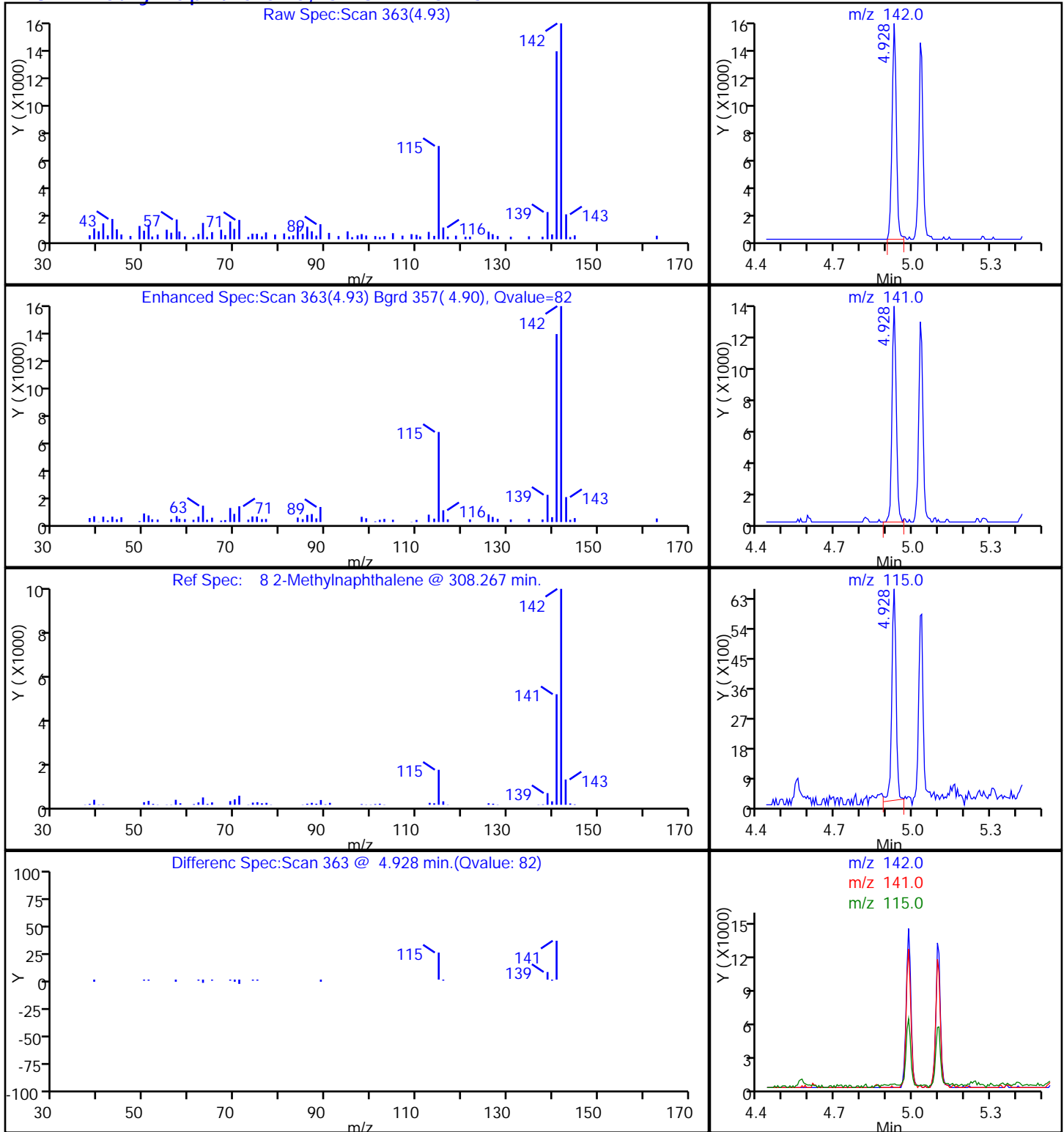
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

8 2-Methylnaphthalene, CAS: 91-57-6



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

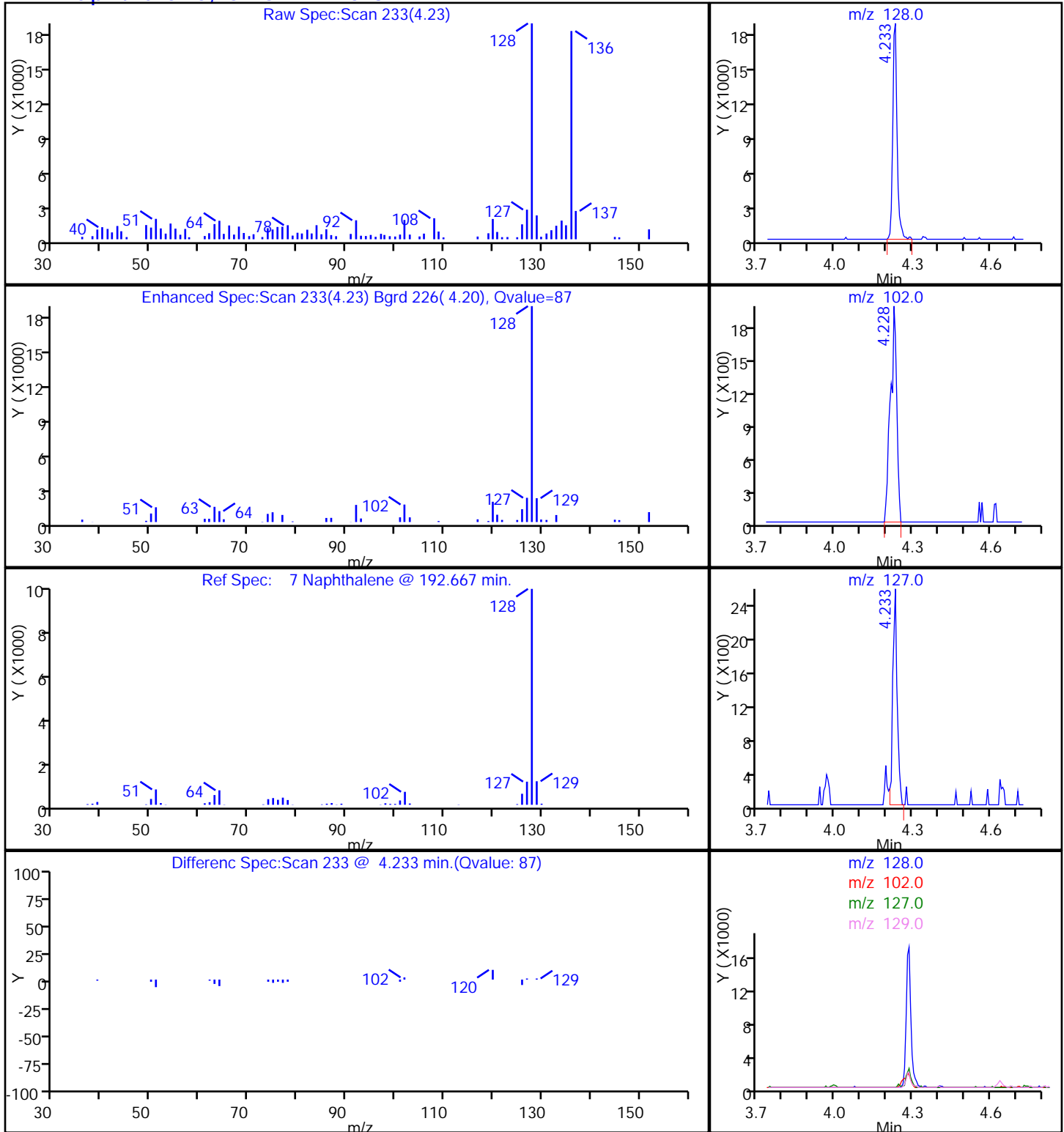
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

7 Naphthalene, CAS: 91-20-3



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

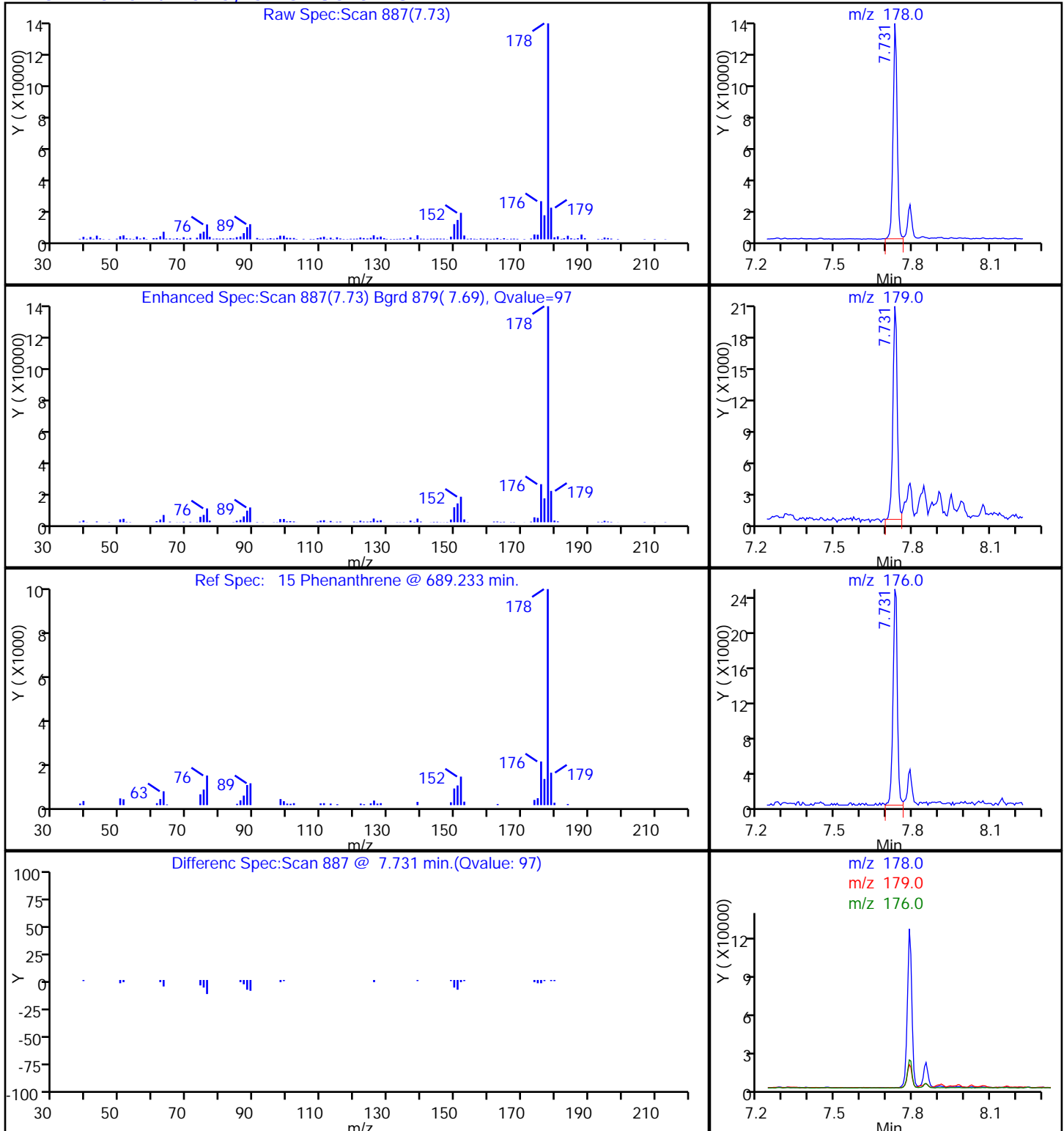
Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

15 Phenanthrene, CAS: 85-01-8



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D

Injection Date: 29-Aug-2014 16:07:30

Instrument ID: CMSY

Lims ID: 680-104534-A-18-A

Lab Sample ID: 680-104534-18

Client ID: FM0350A-CSD4"

Operator ID: RM

ALS Bottle#: 16

Worklist Smp#: 17

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

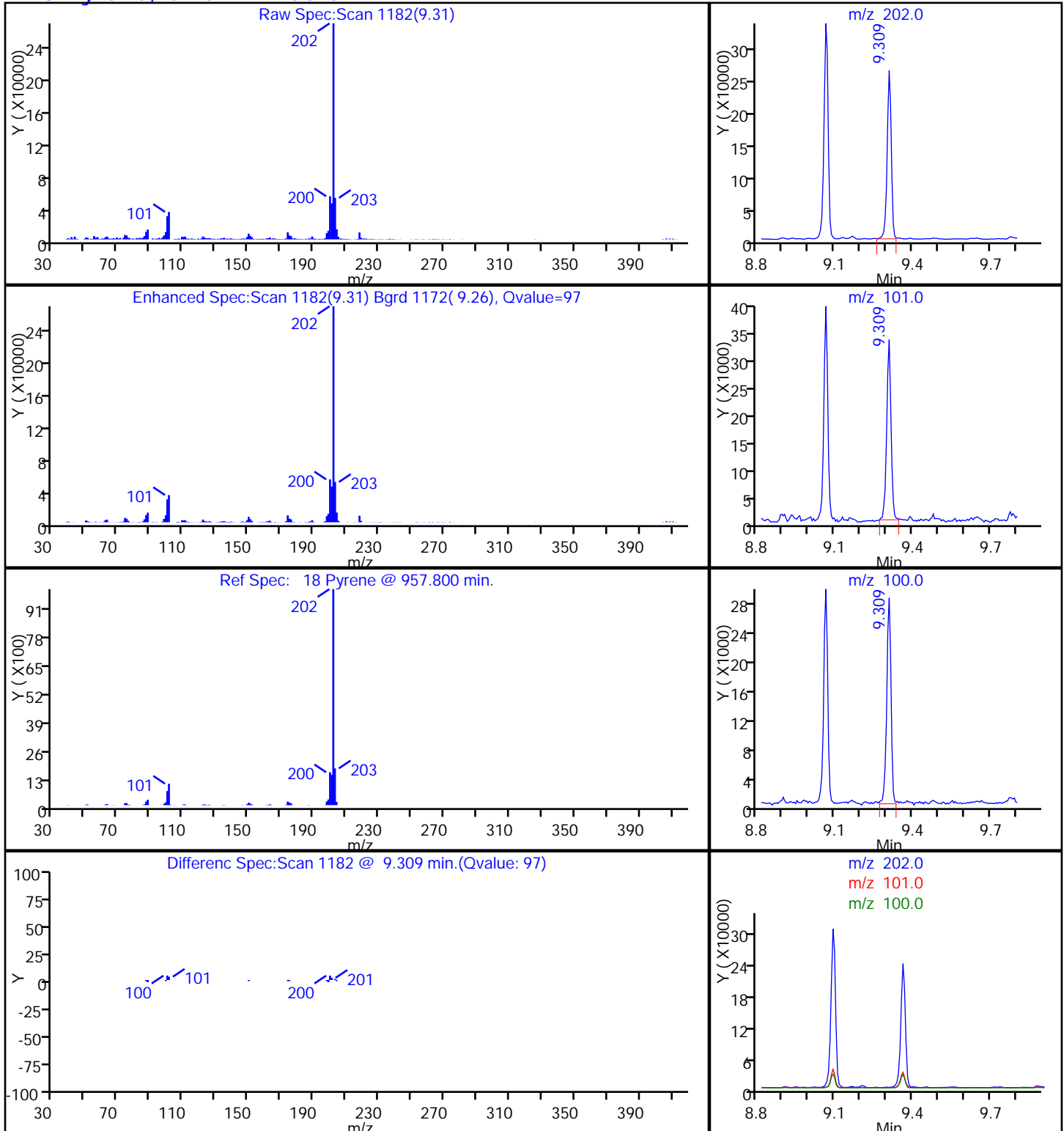
Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

18 Pyrene, CAS: 129-00-0



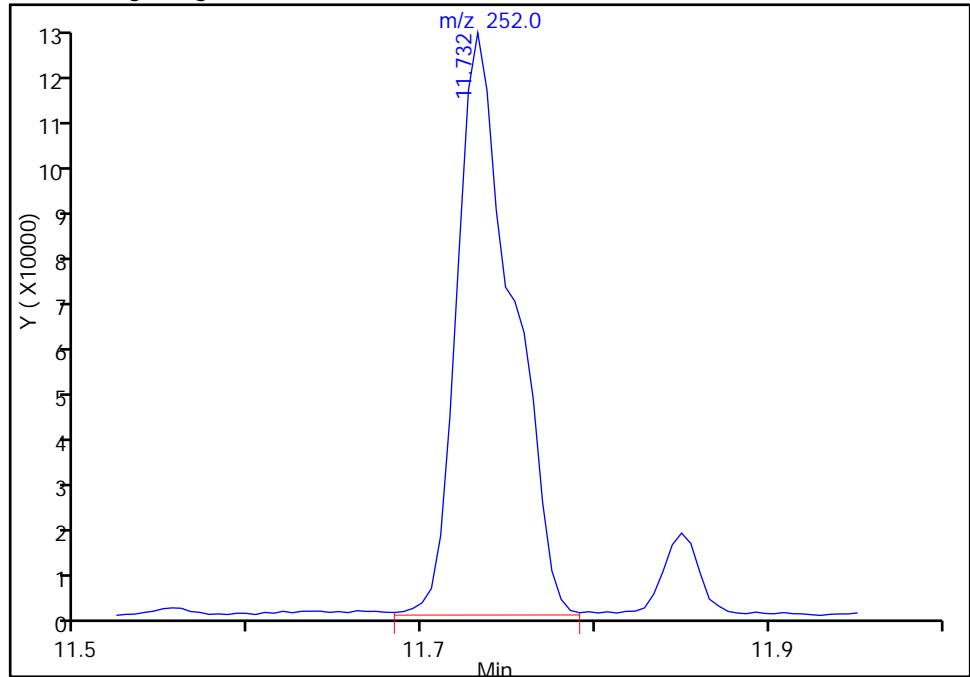
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D				
Injection Date:	29-Aug-2014 16:07:30	Instrument ID:	CMSY		
Lims ID:	680-104534-A-18-A	Lab Sample ID:	680-104534-18		
Client ID:	FM0350A-CSD4"				
Operator ID:	RM	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	10.0000		
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH		
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector	MS SCAN		

21 Benzo[b]fluoranthene, CAS: 205-99-2

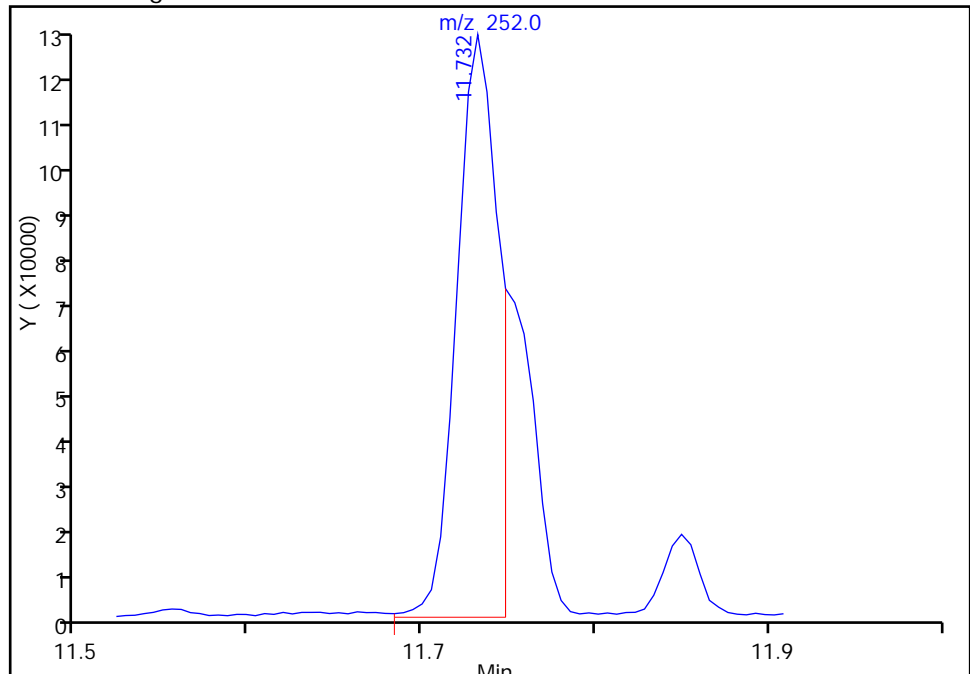
RT: 11.73
Response: 272878
Amount: 2.885764

Processing Integration Results



RT: 11.73
Response: 207001
Amount: 2.189096

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:47:20
Audit Action: Manually Integrated
Audit Reason: Split Peak

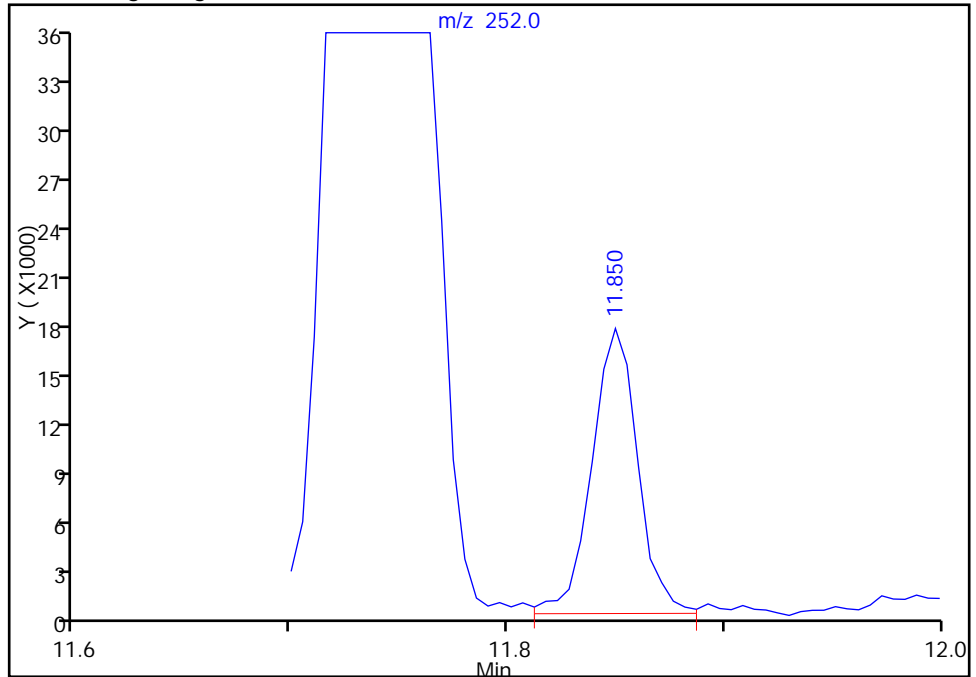
TestAmerica Savannah

Data File:	\\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2917.D				
Injection Date:	29-Aug-2014 16:07:30	Instrument ID:	CMSY		
Lims ID:	680-104534-A-18-A	Lab Sample ID:	680-104534-18		
Client ID:	FM0350A-CSD4"				
Operator ID:	RM	ALS Bottle#:	16	Worklist Smp#:	17
Injection Vol:	2.0 ul	Dil. Factor:	10.0000		
Method:	8270D_LLPAH_MS	Limit Group:	8270D_LL_PAH		
Column:	Restek RXi-5Sil MS (0.25 mm)	Detector	MS SCAN		

22 Benzo[k]fluoranthene, CAS: 207-08-9

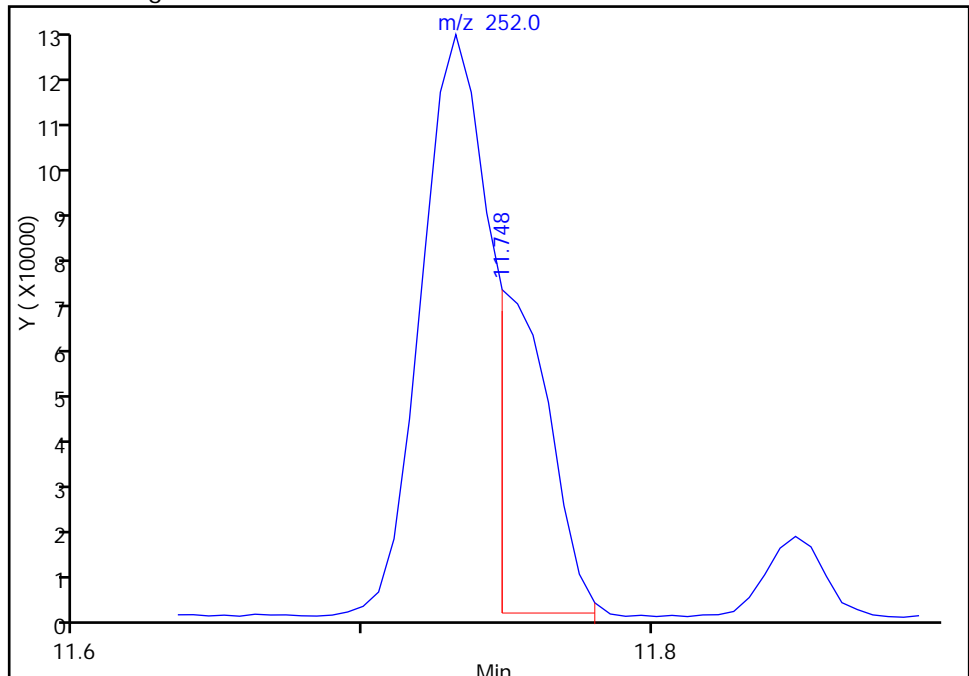
RT: 11.85
Response: 25379
Amount: 0.283530

Processing Integration Results



RT: 11.75
Response: 85797
Amount: 0.958508

Manual Integration Results



Reviewer: webbk, 02-Sep-2014 10:47:20
Audit Action: Manually Integrated
Audit Reason: Split Peak

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 680-104534-1 Analy Batch No.: 345423

SDG No.: 680-104534-01

Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/22/2014 11:57 Calibration End Date: 08/22/2014 14:16 Calibration ID: 33574

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-345423/3	1KH2203.D
Level 2	IC 680-345423/7	1KH2207.D
Level 3	IC 680-345423/8	1KH2208.D
Level 4	IC 680-345423/6	1KH2206.D
Level 5	ICIS 680-345423/2	1KH2202.D
Level 6	IC 680-345423/5	1KH2205.D
Level 7	IC 680-345423/4	1KH2204.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Naphthalene	0.7939 0.9277	0.9226 0.9560	0.8450	0.9451	0.9671	Ave		0.9082			0.7000	7.1		20.0			
2-Methylnaphthalene	0.4767 0.5663	0.5469 0.5830	0.4860	0.5675	0.5771	Ave		0.5434			0.4000	8.1		20.0			
1-Methylnaphthalene	0.4708 0.5479	0.5543 0.5737	0.4734	0.5669	0.5716	Ave		0.5369				8.4		20.0			
Acenaphthylene	1.2410 1.6509	1.5201 1.6762	1.3229	1.5893	1.6717	Ave		1.5246			0.9000	12.0		20.0			
Acenaphthene	0.9209 1.0524	1.0291 1.0651	0.8771	1.0622	1.0757	Ave		1.0118			0.9000	7.8		20.0			
Fluorene	0.7739 1.0125	0.9424 1.0266	0.7811	0.9764	1.0146	Ave		0.9325			0.9000	12.0		20.0			
Phenanthrene	0.8738 0.9886	0.9561 1.0115	0.8265	0.9829	1.0069	Ave		0.9495			0.7000	7.5		20.0			
Anthracene	0.7844 0.9601	0.8731 0.9900	0.7573	0.9291	0.9758	Ave		0.8957			0.7000	10.0		20.0			
Fluoranthene	0.7977 1.0467	0.9341 1.0767	0.7904	0.9703	1.0550	Ave		0.9530			0.6000	13.0		20.0			
Pyrene	1.1266 1.3054	1.2834 1.3493	1.1817	1.3272	1.3486	Ave		1.2746			0.6000	6.8		20.0			
Benzo[a]anthracene	0.8098 0.9339	0.8903 0.9769	0.7501	0.9108	0.9807	Ave		0.8932			0.7000	9.6		20.0			
Chrysene	0.7099 0.9226	0.9110 0.9372	0.7801	0.9213	0.9519	Ave		0.8763			0.7000	11.0		20.0			
Benzo[b]fluoranthene	0.7952 1.1113	0.9839 1.1278	0.8224	1.0123	1.0885	Ave		0.9916			0.4000	14.0		20.0			
Benzo[k]fluoranthene	0.8406 1.0848	1.0134 1.1090	0.8143	1.1836	1.1918	Ave		1.0339			0.4000	15.0		20.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Savannah Job No.: 680-104534-1 Analy Batch No.: 345423
SDG No.: 680-104534-01
Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm) Heated Purge: (Y/N) N
Calibration Start Date: 08/22/2014 11:57 Calibration End Date: 08/22/2014 14:16 Calibration ID: 33574

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Benzo[a]pyrene	0.8308 0.9329	0.8469 0.9829	0.6868	0.9071	0.9415	Ave		0.8756			0.4000	11.0		20.0			
Indeno[1,2,3-cd]pyrene	1.0600 0.7404	0.8311 0.7412	0.6772	0.8822	0.7304	Ave		0.8089			0.2000	16.0		20.0			
Dibenz(a,h)anthracene	1.1589 0.8363	0.8655 0.8503	0.7286	0.9360	0.7779	Ave		0.8791			0.2000	16.0		20.0			
Benzo[g,h,i]perylene	1.1406 0.8128	0.9033 0.8115	0.8079	0.9612	0.7672	Ave		0.8864			0.2000	15.0		20.0			
o-Terphenyl	0.7258 0.7844	0.8529 0.8019	0.8340	0.8668	0.8238	Ave		0.8128				5.9		20.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 680-104534-1 Analy Batch No.: 345423

SDG No.: 680-104534-01

Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/22/2014 11:57 Calibration End Date: 08/22/2014 14:16 Calibration ID: 33574

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-345423/3	1KH2203.D
Level 2	IC 680-345423/7	1KH2207.D
Level 3	IC 680-345423/8	1KH2208.D
Level 4	IC 680-345423/6	1KH2206.D
Level 5	ICIS 680-345423/2	1KH2202.D
Level 6	IC 680-345423/5	1KH2205.D
Level 7	IC 680-345423/4	1KH2204.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Naphthalene	NPT	Ave	18354 2279541	117678 4472175	45357	213914	1077781	0.100 10.0	0.500 20.0	0.200	1.00	5.00
2-Methylnaphthalene	NPT	Ave	11021 1391482	69756 2727550	26084	128454	643182	0.100 10.0	0.500 20.0	0.200	1.00	5.00
1-Methylnaphthalene	NPT	Ave	10886 1346147	70697 2683712	25409	128303	637014	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Acenaphthylene	ANT	Ave	14791 2097161	102250 4171378	38237	185240	962489	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Acenaphthene	ANT	Ave	10975 1336897	69222 2650730	25352	123805	619327	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Fluorene	ANT	Ave	9223 1286140	63392 2554954	22577	113804	584166	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Phenanthrene	PHN	Ave	12910 1690138	81626 3368444	30833	146184	781007	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Anthracene	PHN	Ave	11590 1641544	74541 3297019	28249	138182	756863	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Fluoranthene	PHN	Ave	11786 1789532	79748 3585905	29483	144308	818330	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Pyrene	CRY	Ave	11613 1832499	80346 3655467	30280	150398	824548	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Benzo[a]anthracene	CRY	Ave	8347 1310894	55735 2646560	19220	103209	599594	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Chrysene	CRY	Ave	7318 1295048	57030 2538947	19990	104406	581959	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Benzo[b]fluoranthene	PRY	Ave	6453 1177650	50766 2279120	17228	89046	526878	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Benzo[k]fluoranthene	PRY	Ave	6821 1149526	52287 2241088	17058	104118	576853	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Benzo[a]pyrene	PRY	Ave	6742 988608	43698 1986347	14388	79794	455698	0.100 10.0	0.500 20.0	0.200	1.00	5.00

FORM VI
GC/MS SEMI VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Savannah Job No.: 680-104534-1 Analy Batch No.: 345423

SDG No.: 680-104534-01

Instrument ID: CMSK GC Column: RXi- 5Sil MS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/22/2014 11:57 Calibration End Date: 08/22/2014 14:16 Calibration ID: 33574

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Indeno[1,2,3-cd]pyrene	CRY	Ave	10926 1039274	52033 2007991	17353	99970	446548	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Dibenz(a,h)anthracene	PRY	Ave	9404 886251	44658 1718344	15263	82333	376504	0.100 10.0	0.500 20.0	0.200	1.00	5.00
Benzo[g,h,i]perylene	PRY	Ave	9256 861321	46608 1639900	16924	84549	371351	0.100 10.0	0.500 20.0	0.200	1.00	5.00
o-Terphenyl	CRY	Ave	7481 1101122	53394 2172427	21372	98223	503680	0.100 10.0	0.500 20.0	0.200	1.00	5.00

Curve Type Legend:

Ave = Average ISTD

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2202.D
 Lims ID: ICIS
 Client ID:
 Sample Type: ICIS Calib Level: 5
 Inject. Date: 22-Aug-2014 11:57:30 ALS Bottle#: 2 Worklist Smp#: 2
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: ICIS
 Misc. Info.: 680-0012162-002
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:31 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: moorer

Date: 22-Aug-2014 12:28:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	445777	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	230302	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	98	310268	2.00	2.00	
* 4 Chrysene-d12	240	10.317	10.317	0.000	99	244558	2.00	2.00	
* 5 Perylene-d12	264	11.803	11.803	0.000	97	193608	2.00	2.00	
\$ 6 o-Terphenyl	230	7.926	7.926	0.000	90	503680	5.00	5.07	
7 Naphthalene	128	4.112	4.112	0.000	99	1077781	5.00	5.32	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	86	643182	5.00	5.31	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	92	637014	5.00	5.32	
11 Acenaphthylene	152	5.722	5.722	0.000	97	962489	5.00	5.48	
12 Acenaphthene	153	5.910	5.910	0.000	93	619327	5.00	5.32	
14 Fluorene	166	6.463	6.463	0.000	95	584166	5.00	5.44	
15 Phenanthrene	178	7.514	7.514	0.000	96	781007	5.00	5.30	
16 Anthracene	178	7.567	7.567	0.000	99	756863	5.00	5.45	
17 Fluoranthene	202	8.813	8.813	0.000	98	818330	5.00	5.54	
18 Pyrene	202	9.054	9.054	0.000	98	824548	5.00	5.29	
19 Benzo[a]anthracene	228	10.311	10.311	0.000	99	599594	5.00	5.49	
20 Chrysene	228	10.346	10.346	0.000	98	581959	5.00	5.43	
21 Benzo[b]fluoranthene	252	11.392	11.392	0.000	98	526878	5.00	5.49	
22 Benzo[k]fluoranthene	252	11.422	11.422	0.000	98	576853	5.00	5.76	
23 Benzo[a]pyrene	252	11.745	11.745	0.000	96	455698	5.00	5.38	
24 Indeno[1,2,3-cd]pyrene	276	13.196	13.196	0.000	98	446548	5.00	4.51	
25 Dibenzo(a,h)anthracene	278	13.225	13.225	0.000	95	376504	5.00	4.42	
26 Benzo[g,h,i]perylene	276	13.607	13.607	0.000	86	371351	5.00	4.33	

Reagents:

SMLLPAH5.0LVI_00020

Amount Added: 1.00

Units: mL

Report Date: 22-Aug-2014 15:50:31

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMK\20140822-12162.b\1KH2202.D

Injection Date: 22-Aug-2014 11:57:30

Instrument ID: CMK

Operator ID: RM

Lims ID: ICIS

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

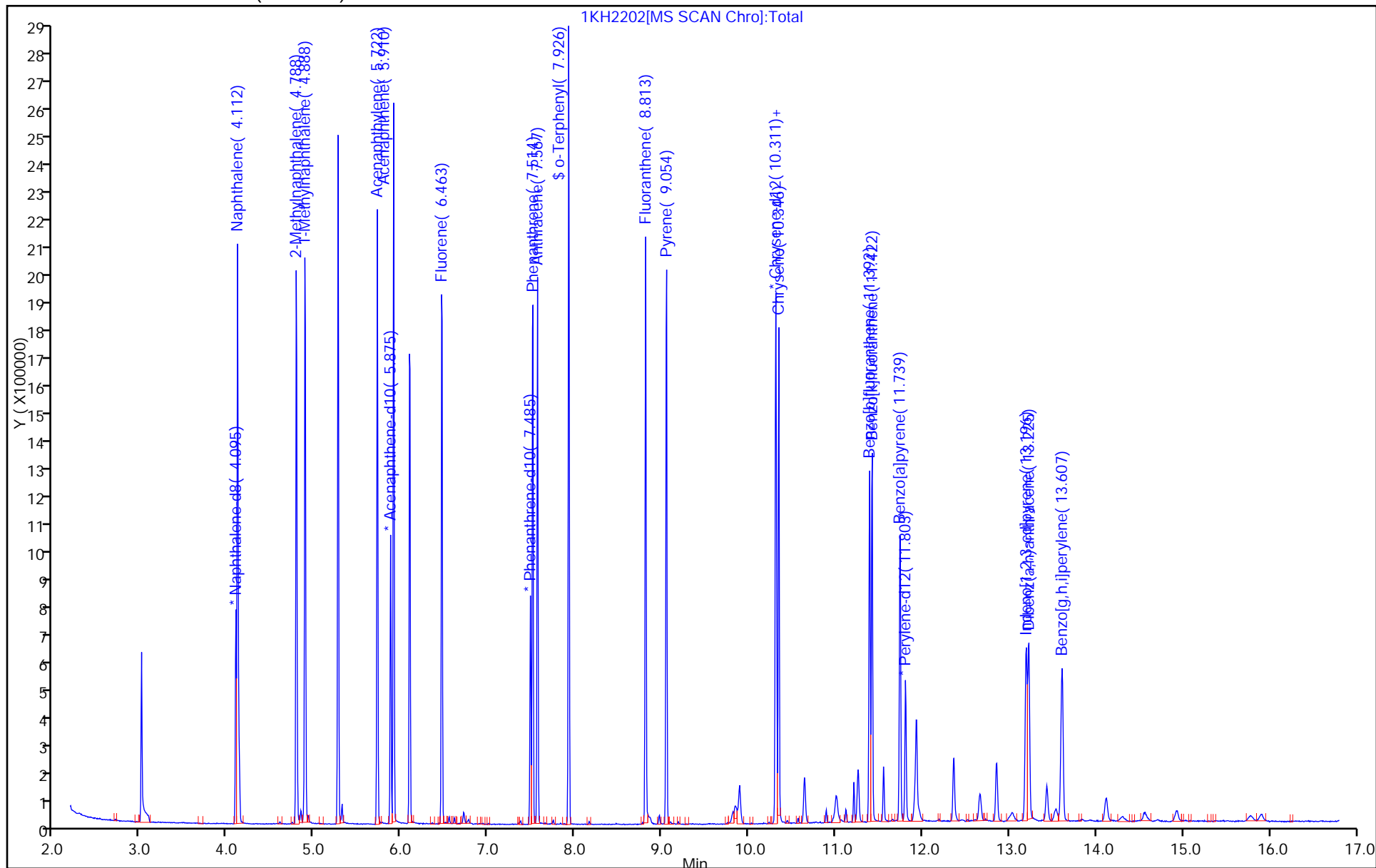
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2203.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 22-Aug-2014 12:20:30 ALS Bottle#: 3 Worklist Smp#: 3
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-003
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH\CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:32 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 12:56:40

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	-0.001	98	462398	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	90	238363	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	98	295497	2.00	2.00	
* 4 Chrysene-d12	240	10.305	10.317	-0.012	99	206159	2.00	2.00	
* 5 Perylene-d12	264	11.774	11.803	-0.029	97	162296	2.00	2.00	
\$ 6 o-Terphenyl	230	7.925	7.926	-0.001	89	7481	0.1000	0.0893	
7 Naphthalene	128	4.112	4.112	0.000	98	18354	0.1000	0.0874	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	84	11021	0.1000	0.0877	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	93	10886	0.1000	0.0877	
11 Acenaphthylene	152	5.722	5.722	0.000	97	14791	0.1000	0.0814	
12 Acenaphthene	153	5.910	5.910	0.000	94	10975	0.1000	0.0910	
14 Fluorene	166	6.462	6.463	-0.001	95	9223	0.1000	0.0830	
15 Phenanthrene	178	7.508	7.514	-0.006	95	12910	0.1000	0.0920	
16 Anthracene	178	7.561	7.567	-0.006	99	11590	0.1000	0.0876	
17 Fluoranthene	202	8.807	8.813	-0.006	99	11786	0.1000	0.0837	
18 Pyrene	202	9.048	9.054	-0.006	97	11613	0.1000	0.0884	
19 Benzo[a]anthracene	228	10.293	10.311	-0.018	97	8347	0.1000	0.0907	
20 Chrysene	228	10.334	10.346	-0.012	98	7318	0.1000	0.0810	
21 Benzo[b]fluoranthene	252	11.363	11.392	-0.029	94	6453	0.1000	0.0802	
22 Benzo[k]fluoranthene	252	11.386	11.422	-0.036	98	6821	0.1000	0.0813	
23 Benzo[a]pyrene	252	11.709	11.745	-0.036	96	6742	0.1000	0.0949	
24 Indeno[1,2,3-cd]pyrene	276	13.155	13.196	-0.041	97	10926	0.1000	0.1310	
25 Dibenz(a,h)anthracene	278	13.184	13.225	-0.041	93	9404	0.1000	0.1318	
26 Benzo[g,h,i]perylene	276	13.560	13.607	-0.047	94	9256	0.1000	0.1287	

Reagents:

SMLLPAH0.1LVI_00017

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2203.D

Injection Date: 22-Aug-2014 12:20:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: IC

Worklist Smp#: 3

Client ID:

Injection Vol: 2.0 ul

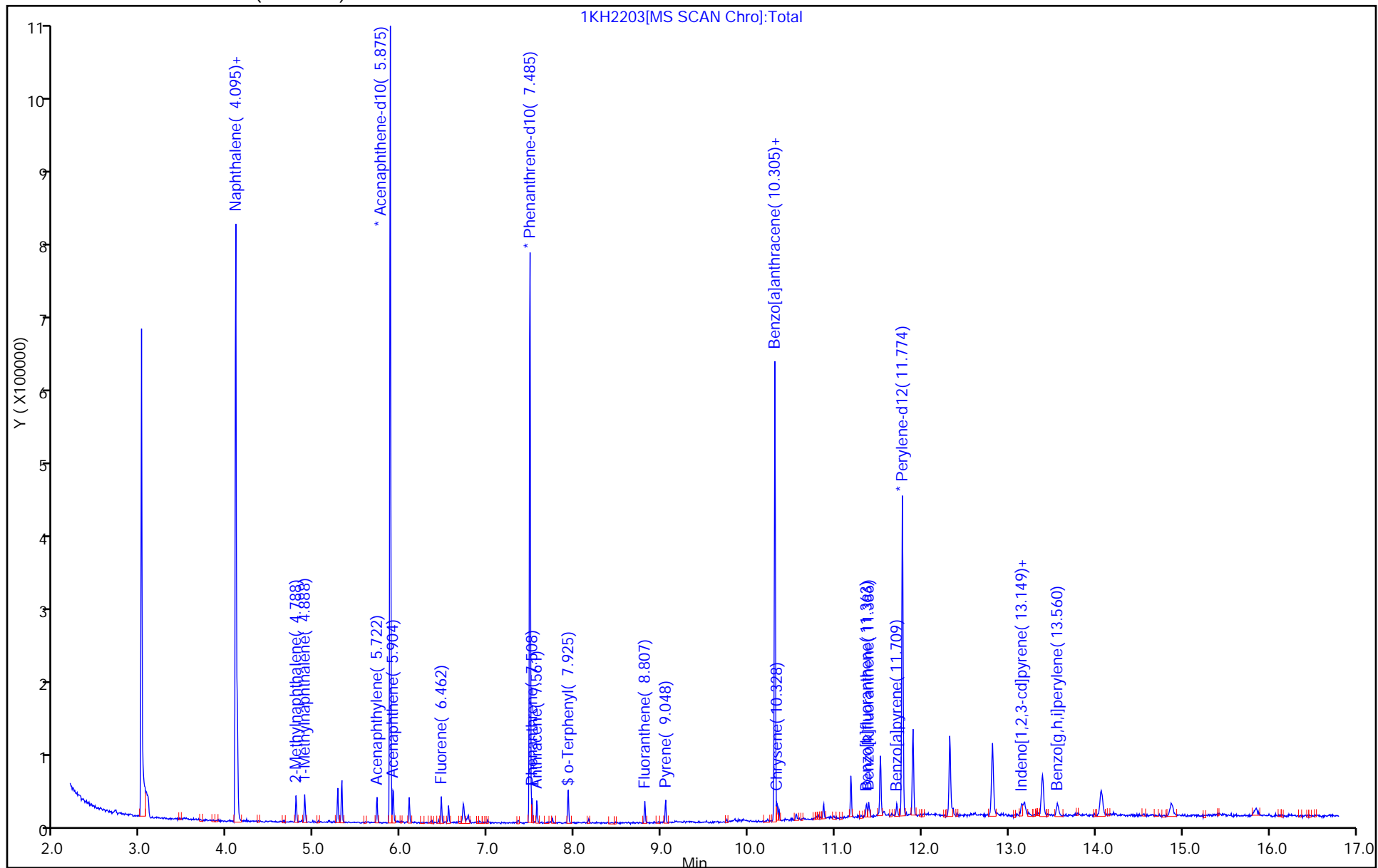
Dil. Factor: 1.0000

ALS Bottle#: 3

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2204.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 22-Aug-2014 12:43:30 ALS Bottle#: 4 Worklist Smp#: 4
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-004
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH\CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:33 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 13:17:14

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	467822	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	248865	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	97	333031	2.00	2.00	
* 4 Chrysene-d12	240	10.311	10.317	-0.006	99	270914	2.00	2.00	
* 5 Perylene-d12	264	11.774	11.803	-0.029	98	202085	2.00	2.00	
\$ 6 o-Terphenyl	230	7.931	7.926	0.005	89	2172427	20.0	19.7	
7 Naphthalene	128	4.118	4.112	0.006	99	4472175	20.0	21.1	
9 2-Methylnaphthalene	142	4.794	4.788	0.006	86	2727550	20.0	21.5	
8 1-Methylnaphthalene	142	4.894	4.888	0.006	92	2683712	20.0	21.4	
11 Acenaphthylene	152	5.728	5.722	0.006	97	4171378	20.0	22.0	
12 Acenaphthene	153	5.916	5.910	0.006	93	2650730	20.0	21.1	
14 Fluorene	166	6.468	6.463	0.005	95	2554954	20.0	22.0	
15 Phenanthrene	178	7.514	7.514	0.000	96	3368444	20.0	21.3	
16 Anthracene	178	7.573	7.567	0.006	99	3297019	20.0	22.1	
17 Fluoranthene	202	8.819	8.813	0.006	98	3585905	20.0	22.6	
18 Pyrene	202	9.054	9.054	0.000	98	3655467	20.0	21.2	
19 Benzo[a]anthracene	228	10.305	10.311	-0.006	98	2646560	20.0	21.9	
20 Chrysene	228	10.340	10.346	-0.006	98	2538947	20.0	21.4	
21 Benzo[b]fluoranthene	252	11.369	11.392	-0.023	98	2279120	20.0	22.7	
22 Benzo[k]fluoranthene	252	11.398	11.422	-0.024	98	2241088	20.0	21.5	
23 Benzo[a]pyrene	252	11.715	11.745	-0.030	96	1986347	20.0	22.5	
24 Indeno[1,2,3-cd]pyrene	276	13.167	13.196	-0.029	98	2007991	20.0	18.3	
25 Dibenzo(a,h)anthracene	278	13.190	13.225	-0.035	96	1718344	20.0	19.3	
26 Benzo[g,h,i]perylene	276	13.584	13.607	-0.023	96	1639900	20.0	18.3	

Reagents:

SMLLPAH20LVI_00017

Amount Added: 1.00

Units: mL

Report Date: 22-Aug-2014 15:50:33

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMK\20140822-12162.b\1KH2204.D

Injection Date: 22-Aug-2014 12:43:30

Instrument ID: CMK

Operator ID: RM

Lims ID: IC

Worklist Smp#: 4

Client ID:

Injection Vol: 2.0 ul

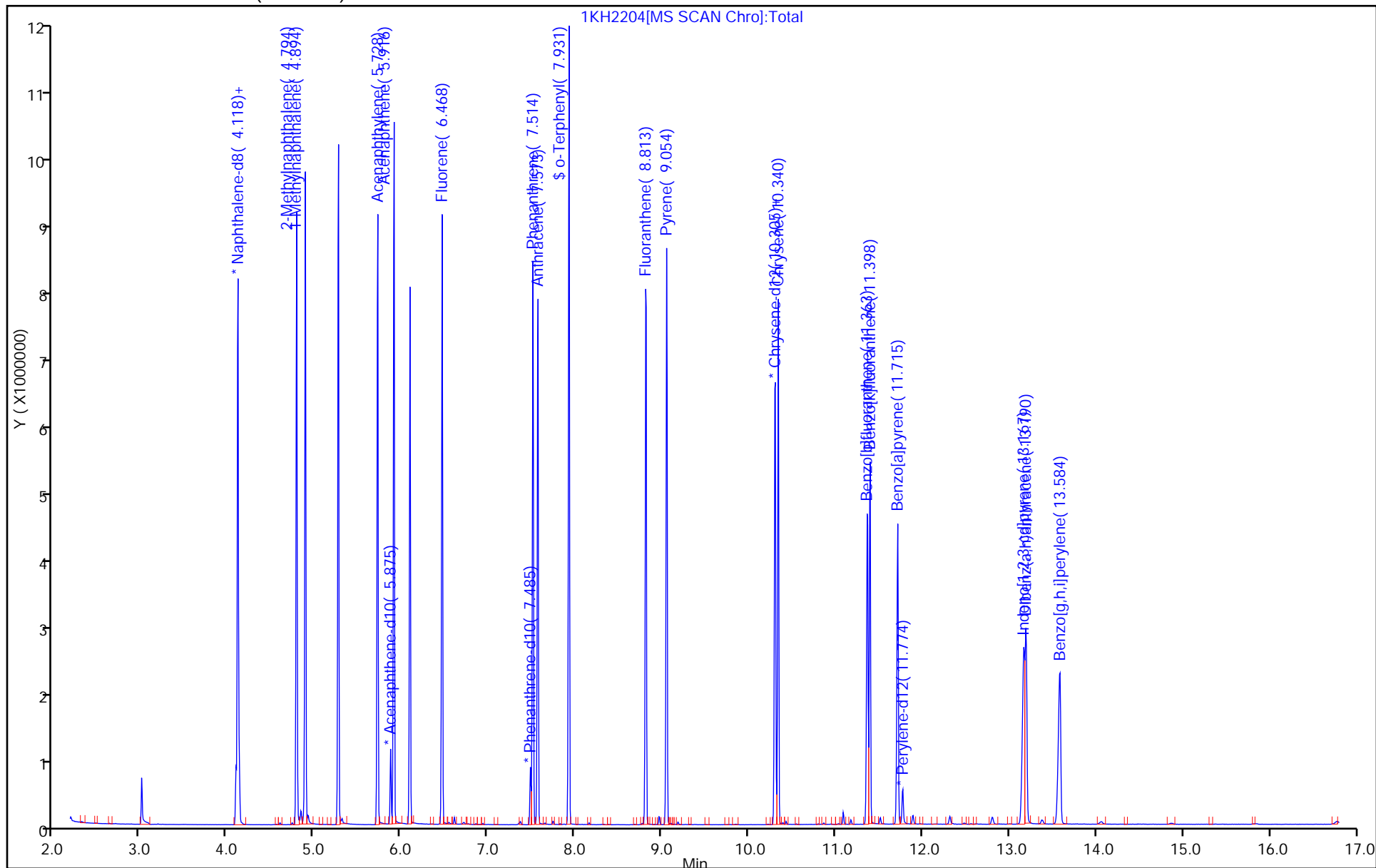
Dil. Factor: 1.0000

ALS Bottle#: 4

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2205.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 22-Aug-2014 13:06:30 ALS Bottle#: 5 Worklist Smp#: 5
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-005
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:34 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 14:17:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	491423	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	254061	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	97	341939	2.00	2.00	
* 4 Chrysene-d12	240	10.311	10.317	-0.006	99	280746	2.00	2.00	
* 5 Perylene-d12	264	11.768	11.803	-0.035	97	211939	2.00	2.00	
\$ 6 o-Terphenyl	230	7.926	7.926	0.000	89	1101122	10.0	9.65	
7 Naphthalene	128	4.112	4.112	0.000	99	2279541	10.0	10.2	
9 2-Methylnaphthalene	142	4.794	4.788	0.006	87	1391482	10.0	10.4	
8 1-Methylnaphthalene	142	4.894	4.888	0.006	92	1346147	10.0	10.2	
11 Acenaphthylene	152	5.722	5.722	0.000	97	2097161	10.0	10.8	
12 Acenaphthene	153	5.910	5.910	0.000	93	1336897	10.0	10.4	
14 Fluorene	166	6.468	6.463	0.005	95	1286140	10.0	10.9	
15 Phenanthrene	178	7.514	7.514	0.000	96	1690138	10.0	10.4	
16 Anthracene	178	7.567	7.567	0.000	99	1641544	10.0	10.7	
17 Fluoranthene	202	8.813	8.813	0.000	98	1789532	10.0	11.0	
18 Pyrene	202	9.048	9.054	-0.006	98	1832499	10.0	10.2	
19 Benzo[a]anthracene	228	10.299	10.311	-0.012	99	1310894	10.0	10.5	
20 Chrysene	228	10.335	10.346	-0.011	98	1295048	10.0	10.5	
21 Benzo[b]fluoranthene	252	11.357	11.392	-0.035	98	1177650	10.0	11.2	
22 Benzo[k]fluoranthene	252	11.386	11.422	-0.036	98	1149526	10.0	10.5	
23 Benzo[a]pyrene	252	11.709	11.745	-0.036	96	988608	10.0	10.7	
24 Indeno[1,2,3-cd]pyrene	276	13.155	13.196	-0.041	98	1039274	10.0	9.15	
25 Dibenz(a,h)anthracene	278	13.184	13.225	-0.041	95	886251	10.0	9.51	
26 Benzo[g,h,i]perylene	276	13.566	13.607	-0.041	96	861321	10.0	9.17	

Reagents:

SMLLPAH10LVI_00017

Amount Added: 1.00

Units: mL

Report Date: 22-Aug-2014 15:50:35

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMK\20140822-12162.b\1KH2205.D

Injection Date: 22-Aug-2014 13:06:30

Instrument ID: CMK

Operator ID: RM

Lims ID: IC

Worklist Smp#: 5

Client ID:

Injection Vol: 2.0 ul

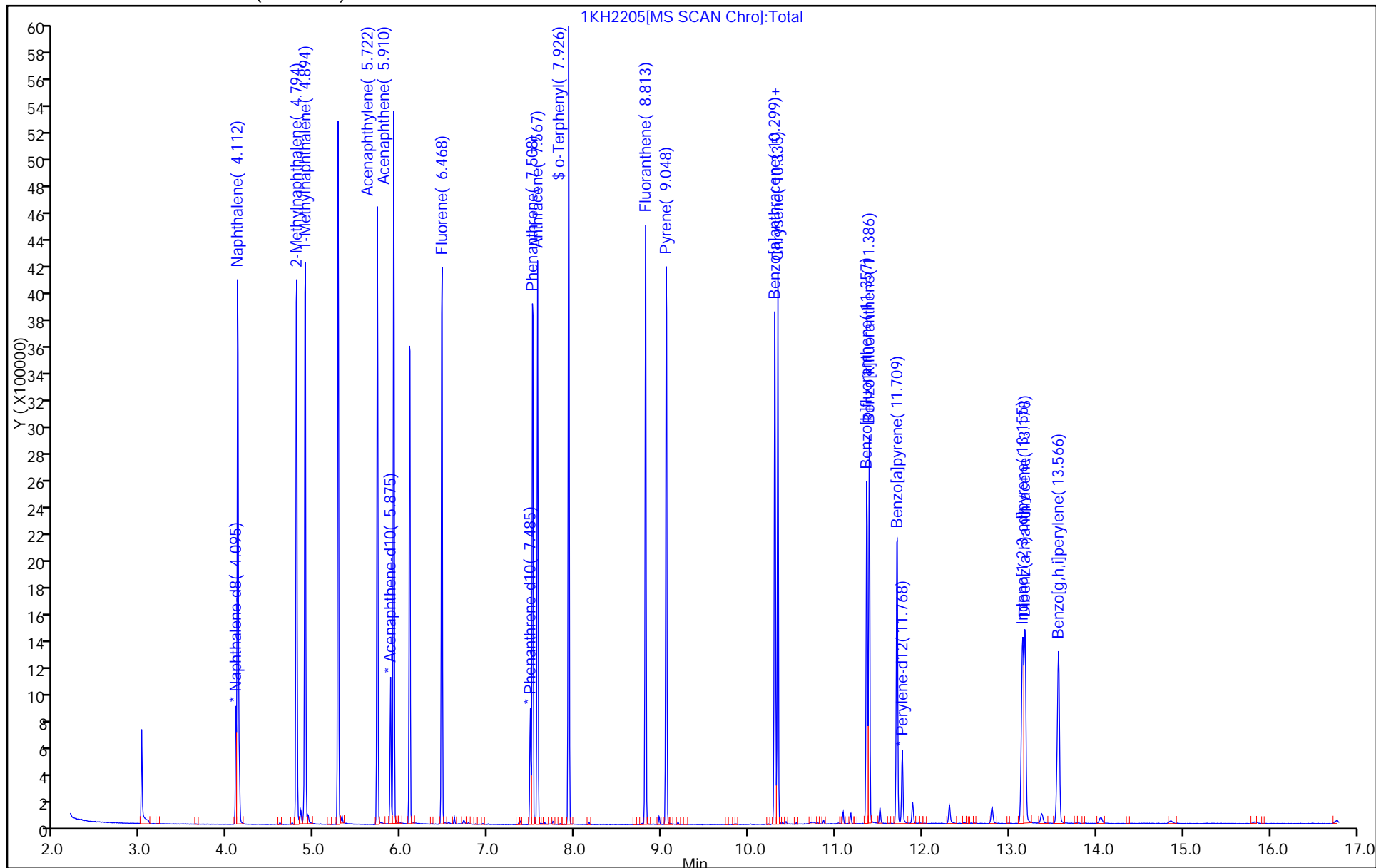
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2206.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 22-Aug-2014 13:30:30 ALS Bottle#: 6 Worklist Smp#: 6
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-006
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:36 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 14:39:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	452662	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	92	233104	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	98	297449	2.00	2.00	
* 4 Chrysene-d12	240	10.305	10.317	-0.012	99	226641	2.00	2.00	
* 5 Perylene-d12	264	11.762	11.803	-0.041	97	175928	2.00	2.00	
\$ 6 o-Terphenyl	230	7.925	7.926	-0.001	90	98223	1.00	1.07	
7 Naphthalene	128	4.112	4.112	0.000	99	213914	1.00	1.04	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	86	128454	1.00	1.04	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	92	128303	1.00	1.06	
11 Acenaphthylene	152	5.722	5.722	0.000	97	185240	1.00	1.04	
12 Acenaphthene	153	5.910	5.910	0.000	93	123805	1.00	1.05	
14 Fluorene	166	6.462	6.463	-0.001	96	113804	1.00	1.05	
15 Phenanthrene	178	7.508	7.514	-0.006	96	146184	1.00	1.04	
16 Anthracene	178	7.561	7.567	-0.006	99	138182	1.00	1.04	
17 Fluoranthene	202	8.807	8.813	-0.006	98	144308	1.00	1.02	
18 Pyrene	202	9.048	9.054	-0.006	97	150398	1.00	1.04	
19 Benzo[a]anthracene	228	10.293	10.311	-0.018	99	103209	1.00	1.02	
20 Chrysene	228	10.329	10.346	-0.017	98	104406	1.00	1.05	
21 Benzo[b]fluoranthene	252	11.351	11.392	-0.041	97	89046	1.00	1.02	
22 Benzo[k]fluoranthene	252	11.380	11.422	-0.042	98	104118	1.00	1.14	
23 Benzo[a]pyrene	252	11.698	11.745	-0.047	95	79794	1.00	1.04	
24 Indeno[1,2,3-cd]pyrene	276	13.143	13.196	-0.053	97	99970	1.00	1.09	
25 Dibenz(a,h)anthracene	278	13.172	13.225	-0.053	94	82333	1.00	1.06	
26 Benzo[g,h,i]perylene	276	13.548	13.607	-0.059	96	84549	1.00	1.08	

Reagents:

SMLLPAH1.0LVI_00015

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2206.D

Injection Date: 22-Aug-2014 13:30:30

Instrument ID: CMSK

Lims ID: IC

Client ID:

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

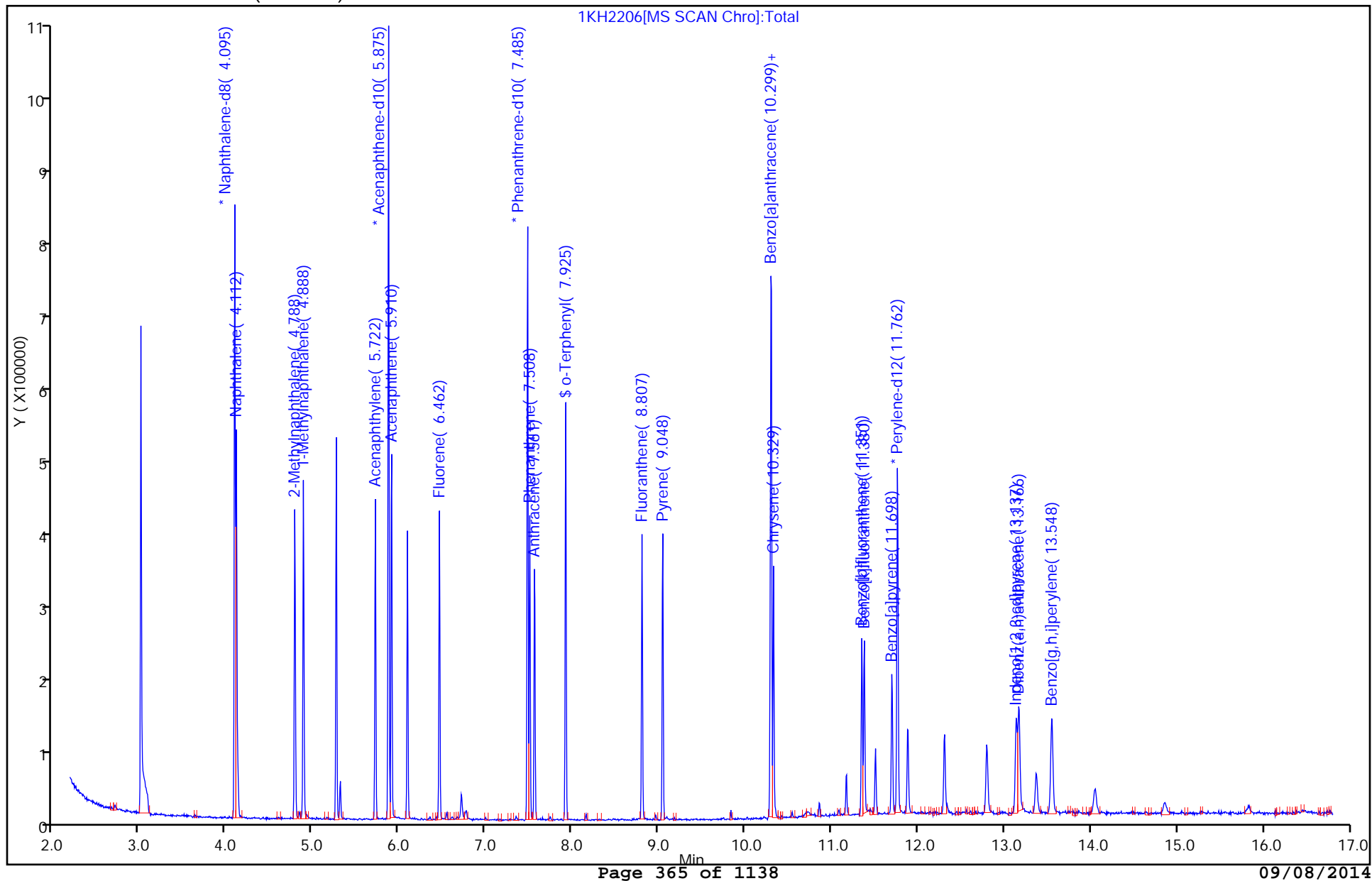
Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Operator ID: RM

Worklist Smp#: 6

ALS Bottle#: 6



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2207.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 22-Aug-2014 13:53:30 ALS Bottle#: 7 Worklist Smp#: 7
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-007
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:37 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: moorer

Date: 22-Aug-2014 14:44:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	510210	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	269055	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	97	341481	2.00	2.00	
* 4 Chrysene-d12	240	10.305	10.317	-0.012	99	250418	2.00	2.00	
* 5 Perylene-d12	264	11.768	11.803	-0.035	97	206391	2.00	2.00	
\$ 6 o-Terphenyl	230	7.925	7.926	-0.001	90	53394	0.5000	0.5247	
7 Naphthalene	128	4.112	4.112	0.000	99	117678	0.5000	0.5079	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	84	69756	0.5000	0.5032	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	92	70697	0.5000	0.5161	
11 Acenaphthylene	152	5.722	5.722	0.000	98	102250	0.5000	0.4985	
12 Acenaphthene	153	5.910	5.910	0.000	93	69222	0.5000	0.5086	
14 Fluorene	166	6.462	6.463	-0.001	95	63392	0.5000	0.5053	
15 Phenanthrene	178	7.508	7.514	-0.006	96	81626	0.5000	0.5035	
16 Anthracene	178	7.561	7.567	-0.006	99	74541	0.5000	0.4874	
17 Fluoranthene	202	8.807	8.813	-0.006	98	79748	0.5000	0.4901	
18 Pyrene	202	9.048	9.054	-0.006	98	80346	0.5000	0.5034	
19 Benzo[a]anthracene	228	10.293	10.311	-0.018	99	55735	0.5000	0.4984	
20 Chrysene	228	10.329	10.346	-0.017	98	57030	0.5000	0.5198	
21 Benzo[b]fluoranthene	252	11.357	11.392	-0.035	97	50766	0.5000	0.4961	
22 Benzo[k]fluoranthene	252	11.380	11.422	-0.042	98	52287	0.5000	0.4901	
23 Benzo[a]pyrene	252	11.703	11.745	-0.042	96	43698	0.5000	0.4836	
24 Indeno[1,2,3-cd]pyrene	276	13.143	13.196	-0.053	97	52033	0.5000	0.5137	
25 Dibenz(a,h)anthracene	278	13.172	13.225	-0.053	94	44658	0.5000	0.4923	
26 Benzo[g,h,i]perylene	276	13.548	13.607	-0.059	95	46608	0.5000	0.5096	

Reagents:

SMLLPAH0.5LVI_00017

Amount Added: 1.00

Units: mL

Report Date: 22-Aug-2014 15:50:38

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2207.D

Injection Date: 22-Aug-2014 13:53:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: IC

Worklist Smp#: 7

Client ID:

Injection Vol: 2.0 ul

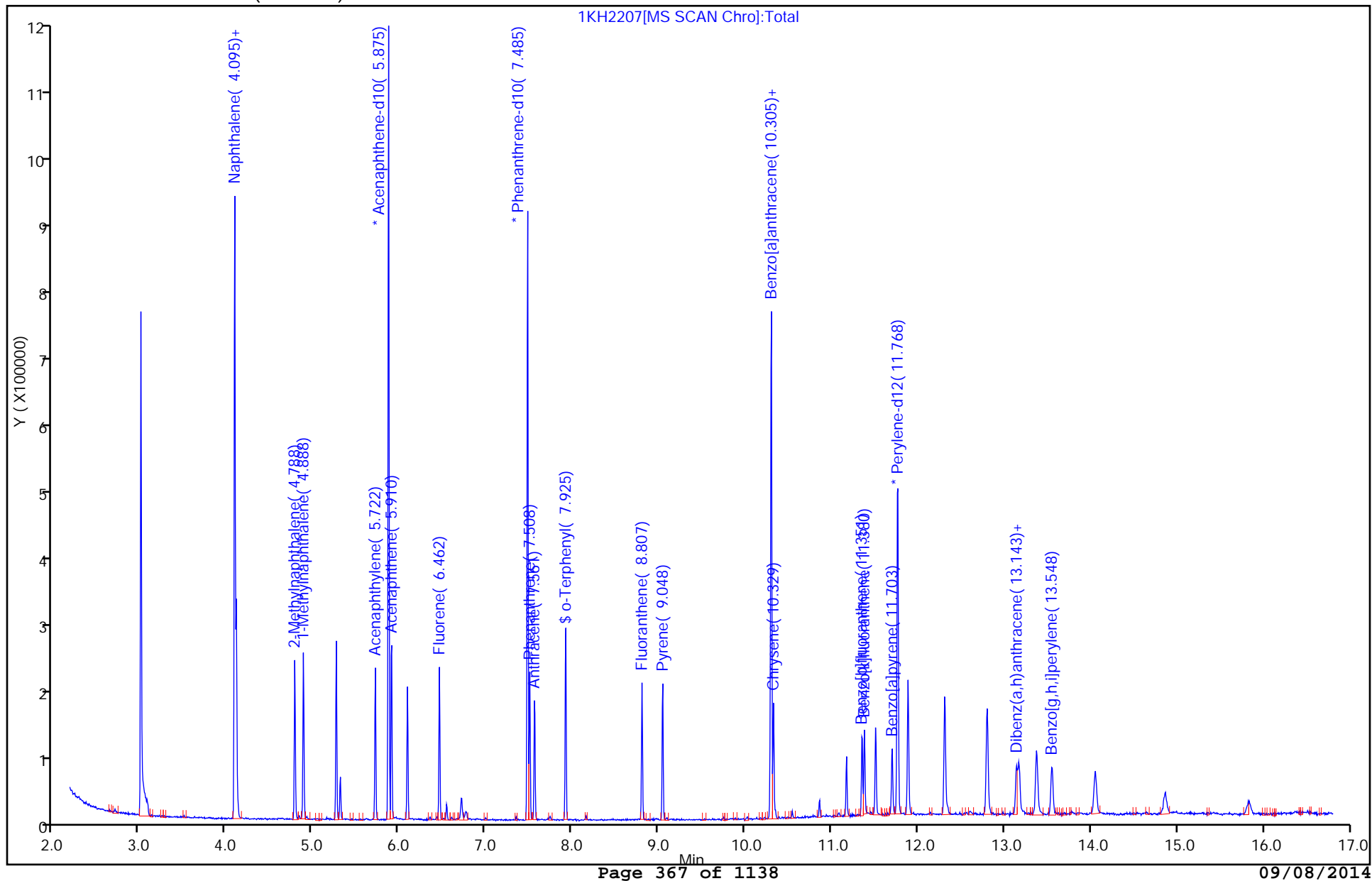
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Lims ID: IC
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 22-Aug-2014 14:16:30 ALS Bottle#: 8 Worklist Smp#: 8
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: IC
 Misc. Info.: 680-0012162-008
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:39 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 14:48:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	-0.001	98	536747	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	289046	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	98	373035	2.00	2.00	
* 4 Chrysene-d12	240	10.305	10.317	-0.012	99	256249	2.00	2.00	
* 5 Perylene-d12	264	11.768	11.803	-0.035	97	209484	2.00	2.00	
\$ 6 o-Terphenyl	230	7.925	7.926	-0.001	91	21372	0.2000	0.2052	
7 Naphthalene	128	4.112	4.112	0.000	98	45357	0.2000	0.1861	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	87	26084	0.2000	0.1789	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	92	25409	0.2000	0.1763	
11 Acenaphthylene	152	5.722	5.722	0.000	97	38237	0.2000	0.1735	
12 Acenaphthene	153	5.910	5.910	0.000	94	25352	0.2000	0.1734	
14 Fluorene	166	6.462	6.463	-0.001	95	22577	0.2000	0.1675	
15 Phenanthrene	178	7.508	7.514	-0.006	96	30833	0.2000	0.1741	
16 Anthracene	178	7.561	7.567	-0.006	99	28249	0.2000	0.1691	
17 Fluoranthene	202	8.807	8.813	-0.006	97	29483	0.2000	0.1659	
18 Pyrene	202	9.048	9.054	-0.006	99	30280	0.2000	0.1854	
19 Benzo[a]anthracene	228	10.293	10.311	-0.018	98	19220	0.2000	0.1679	
20 Chrysene	228	10.328	10.346	-0.018	98	19990	0.2000	0.1780	
21 Benzo[b]fluoranthene	252	11.357	11.392	-0.035	97	17228	0.2000	0.1659	
22 Benzo[k]fluoranthene	252	11.380	11.422	-0.042	99	17058	0.2000	0.1575	
23 Benzo[a]pyrene	252	11.703	11.745	-0.042	96	14388	0.2000	0.1569	
24 Indeno[1,2,3-cd]pyrene	276	13.137	13.196	-0.059	96	17353	0.2000	0.1674	
25 Dibenzo(a,h)anthracene	278	13.178	13.225	-0.047	79	15263	0.2000	0.1658	
26 Benzo[g,h,i]perylene	276	13.554	13.607	-0.053	96	16924	0.2000	0.1823	

Reagents:

SMLLPAH0.2LVI_00016

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D

Injection Date: 22-Aug-2014 14:16:30

Instrument ID: CMSK

Lims ID: IC

Client ID:

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270_LLPAH_CMSK

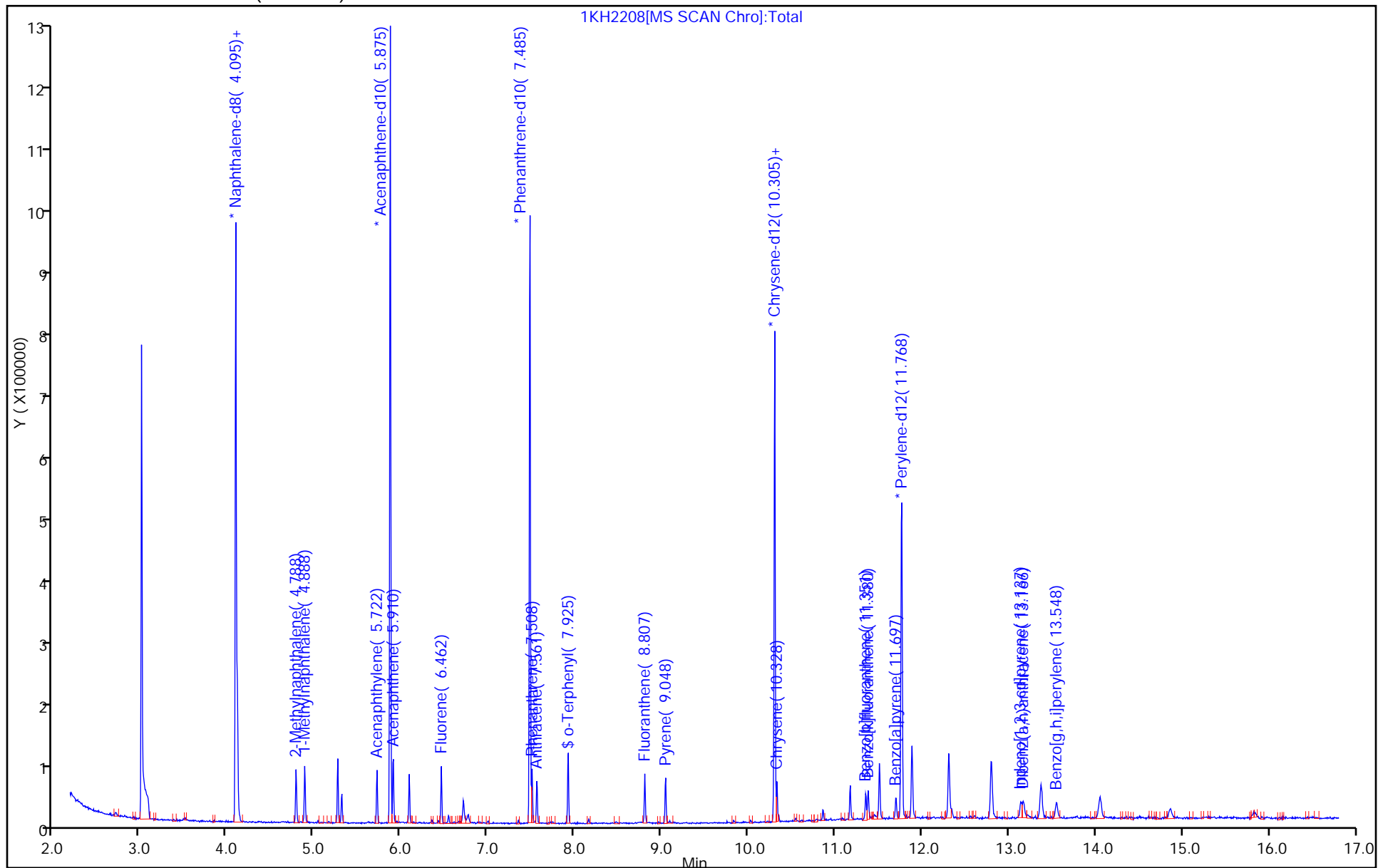
Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Operator ID: RM

Worklist Smp#: 8

ALS Bottle#: 8



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICV 680-345423/9 Calibration Date: 08/22/2014 14:40
 Instrument ID: CMSK Calib Start Date: 08/22/2014 11:57
 GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 08/22/2014 14:16
 Lab File ID: 1KH2209.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	0.9082	0.9183	0.7000	5.06	5.00	1.1	30.0
2-Methylnaphthalene	Ave	0.5434	0.5688	0.4000	5.23	5.00	4.7	30.0
1-Methylnaphthalene	Ave	0.5369	0.5463		5.09	5.00	1.7	30.0
Acenaphthylene	Ave	1.525	1.610	0.9000	5.28	5.00	5.6	30.0
Acenaphthene	Ave	1.012	1.030	0.9000	5.09	5.00	1.8	30.0
Fluorene	Ave	0.9325	0.9850	0.9000	5.28	5.00	5.6	30.0
Phenanthrene	Ave	0.9495	0.9371	0.7000	4.93	5.00	-1.3	30.0
Anthracene	Ave	0.8957	0.9067	0.7000	5.06	5.00	1.2	30.0
Fluoranthene	Ave	0.9530	0.9769	0.6000	5.13	5.00	2.5	30.0
Pyrene	Ave	1.275	1.286	0.6000	5.04	5.00	0.9	30.0
Benzo[a]anthracene	Ave	0.8932	0.9217	0.7000	5.16	5.00	3.2	30.0
Chrysene	Ave	0.8763	0.8617	0.7000	4.92	5.00	-1.7	30.0
Benzo[b]fluoranthene	Ave	0.9916	1.008	0.4000	5.08	5.00	1.7	30.0
Benzo[k]fluoranthene	Ave	1.034	1.130	0.4000	5.46	5.00	9.3	30.0
Benzo[a]pyrene	Ave	0.8756	0.9316	0.4000	5.32	5.00	6.4	30.0
Indeno[1,2,3-cd]pyrene	Ave	0.8089	0.7761	0.2000	4.80	5.00	-4.1	30.0
Dibenz(a,h)anthracene	Ave	0.8791	0.7668	0.2000	4.36	5.00	-12.8	30.0
Benzo[g,h,i]perylene	Ave	0.8864	0.7915	0.2000	4.46	5.00	-10.7	30.0
o-Terphenyl	Ave	0.8128	0.7370		4.53	5.00	-9.3	30.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2209.D
 Lims ID: ICV
 Client ID:
 Sample Type: ICV
 Inject. Date: 22-Aug-2014 14:40:30 ALS Bottle#: 9 Worklist Smp#: 9
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: ICV
 Misc. Info.: 680-0012162-009
 Operator ID: RM Instrument ID: CMSK
 Sublist:
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:39 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: webbk

Date: 22-Aug-2014 15:24:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.095	4.095	0.000	98	508042	2.00	2.00	
* 2 Acenaphthene-d10	164	5.875	5.875	0.000	91	268045	2.00	2.00	
* 3 Phenanthrene-d10	188	7.485	7.485	0.000	97	372511	2.00	2.00	
* 4 Chrysene-d12	240	10.305	10.317	-0.012	99	296254	2.00	2.00	
* 5 Perylene-d12	264	11.768	11.803	-0.035	97	245630	2.00	2.00	
\$ 6 o-Terphenyl	230	7.925	7.926	-0.001	89	545874	5.00	4.53	
7 Naphthalene	128	4.112	4.112	0.000	99	1166365	5.00	5.06	
9 2-Methylnaphthalene	142	4.788	4.788	0.000	86	722428	5.00	5.23	
8 1-Methylnaphthalene	142	4.888	4.888	0.000	92	693845	5.00	5.09	
11 Acenaphthylene	152	5.722	5.722	0.000	97	1079161	5.00	5.28	
12 Acenaphthene	153	5.910	5.910	0.000	94	690331	5.00	5.09	
14 Fluorene	166	6.462	6.463	-0.001	95	660031	5.00	5.28	
15 Phenanthrene	178	7.508	7.514	-0.006	97	872693	5.00	4.93	
16 Anthracene	178	7.567	7.567	0.000	99	844347	5.00	5.06	
17 Fluoranthene	202	8.813	8.813	0.000	98	909734	5.00	5.13	
18 Pyrene	202	9.048	9.054	-0.006	98	952482	5.00	5.04	
19 Benzo[a]anthracene	228	10.299	10.311	-0.012	99	682639	5.00	5.16	
20 Chrysene	228	10.334	10.346	-0.012	98	638168	5.00	4.92	
21 Benzo[b]fluoranthene	252	11.357	11.392	-0.035	98	619085	5.00	5.08	
22 Benzo[k]fluoranthene	252	11.386	11.422	-0.036	99	693804	5.00	5.46	
23 Benzo[a]pyrene	252	11.703	11.745	-0.042	96	572057	5.00	5.32	
24 Indeno[1,2,3-cd]pyrene	276	13.149	13.196	-0.047	98	574795	5.00	4.80	
25 Dibenzo(a,h)anthracene	278	13.178	13.225	-0.047	96	470851	5.00	4.36	
26 Benzo[g,h,i]perylene	276	13.560	13.607	-0.047	95	486027	5.00	4.46	

Reagents:

SMLLPAHICVLLVI_00027

Amount Added: 1.00

Units: mL

Report Date: 22-Aug-2014 15:50:41

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2209.D

Injection Date: 22-Aug-2014 14:40:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: ICV

Worklist Smp#: 9

Client ID:

Injection Vol: 2.0 ul

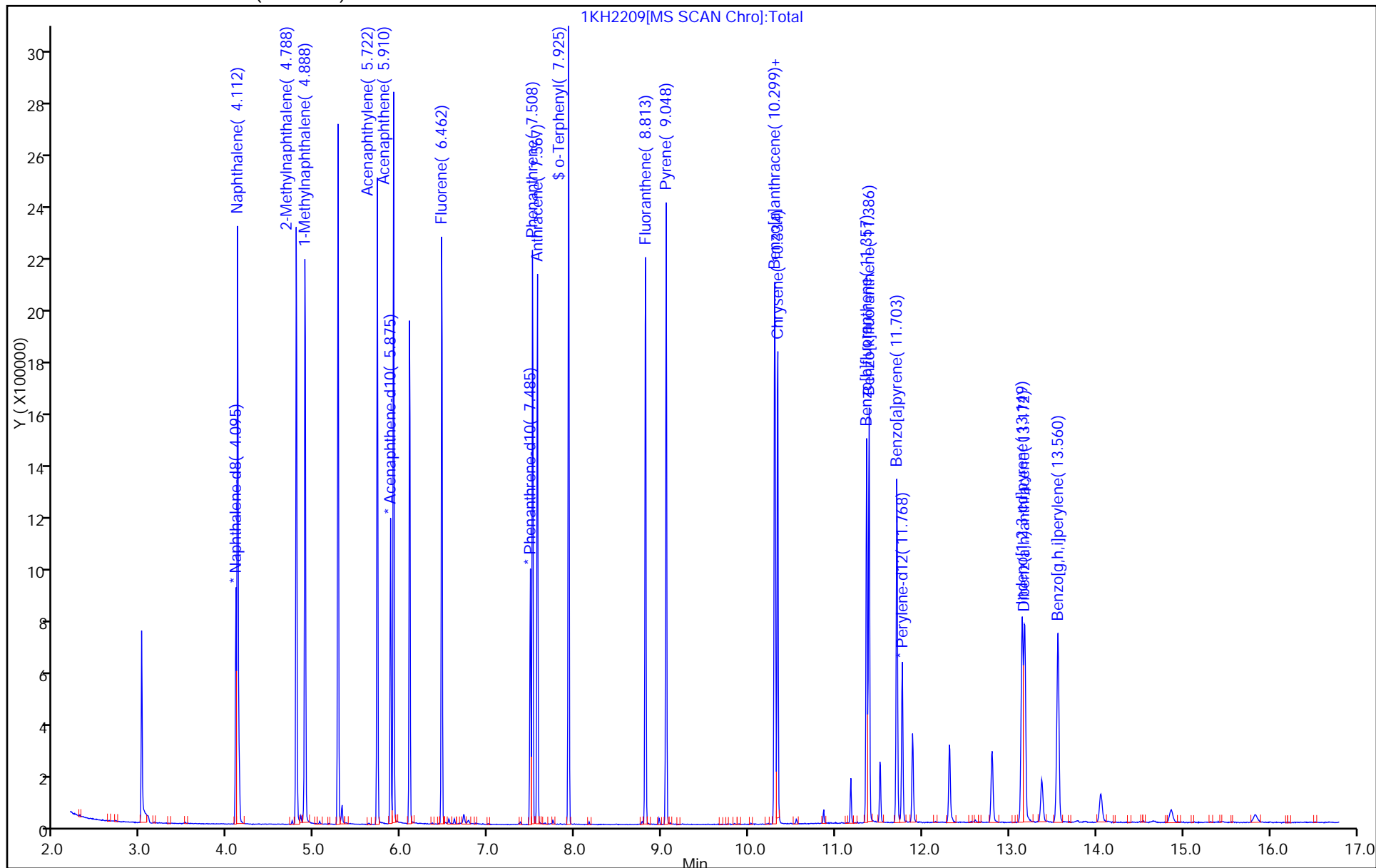
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: CCVIS 680-345964/2 Calibration Date: 08/26/2014 13:59
 Instrument ID: CMSK Calib Start Date: 08/22/2014 11:57
 GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 08/22/2014 14:16
 Lab File ID: 1KH2602.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	0.9082	0.9501	0.7000	5.23	5.00	4.6	20.0
2-Methylnaphthalene	Ave	0.5434	0.5790	0.4000	5.33	5.00	6.6	20.0
1-Methylnaphthalene	Ave	0.5369	0.5708		5.32	5.00	6.3	20.0
Acenaphthylene	Ave	1.525	1.698	0.9000	5.57	5.00	11.4	20.0
Acenaphthene	Ave	1.012	1.078	0.9000	5.33	5.00	6.5	20.0
Fluorene	Ave	0.9325	1.054	0.9000	5.65	5.00	13.0	20.0
Phenanthrene	Ave	0.9495	1.020	0.7000	5.37	5.00	7.5	20.0
Anthracene	Ave	0.8957	0.9723	0.7000	5.43	5.00	8.6	20.0
Fluoranthene	Ave	0.9530	1.042	0.6000	5.47	5.00	9.3	20.0
Pyrene	Ave	1.275	1.301	0.6000	5.10	5.00	2.0	20.0
Benzo[a]anthracene	Ave	0.8932	0.9654	0.7000	5.40	5.00	8.1	20.0
Chrysene	Ave	0.8763	0.9474	0.7000	5.41	5.00	8.1	20.0
Benzo[b]fluoranthene	Ave	0.9916	1.027	0.4000	5.18	5.00	3.6	20.0
Benzo[k]fluoranthene	Ave	1.034	1.156	0.4000	5.59	5.00	11.8	20.0
Benzo[a]pyrene	Ave	0.8756	0.9277	0.4000	5.30	5.00	5.9	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.8089	0.7688	0.2000	4.75	5.00	-5.0	20.0
Dibenz(a,h)anthracene	Ave	0.8791	0.7997	0.2000	4.55	5.00	-9.0	20.0
Benzo[g,h,i]perylene	Ave	0.8864	0.7913	0.2000	4.46	5.00	-10.7	20.0
o-Terphenyl	Ave	0.8128	0.7199		4.43	5.00	-11.4	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2602.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 26-Aug-2014 13:59:30 ALS Bottle#: 2 Worklist Smp#: 2
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: CCVIS
 Misc. Info.: 680-0012269-002
 Operator ID: RM Instrument ID: CMSK
 Sublist: chrom-8270_LLPAH_CMSK*sub1
 Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH_CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 27-Aug-2014 17:01:07 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK016

First Level Reviewer: webbk

Date: 26-Aug-2014 14:42:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.024	4.024	0.000	98	572747	2.00	2.00	
* 2 Acenaphthene-d10	164	5.799	5.799	0.000	91	292216	2.00	2.00	
* 3 Phenanthrene-d10	188	7.408	7.408	0.000	98	395697	2.00	2.00	
* 4 Chrysene-d12	240	10.229	10.229	0.000	99	325141	2.00	2.00	
* 5 Perylene-d12	264	11.668	11.668	0.000	97	265572	2.00	2.00	
\$ 6 o-Terphenyl	230	7.849	7.849	0.000	89	585185	5.00	4.43	
7 Naphthalene	128	4.042	4.042	0.000	99	1360423	5.00	5.23	
9 2-Methylnaphthalene	142	4.717	4.717	0.000	87	829002	5.00	5.33	
8 1-Methylnaphthalene	142	4.817	4.817	0.000	92	817268	5.00	5.32	
11 Acenaphthylene	152	5.646	5.646	0.000	97	1240635	5.00	5.57	
12 Acenaphthene	153	5.834	5.834	0.000	93	787347	5.00	5.33	
14 Fluorene	166	6.386	6.386	0.000	95	769971	5.00	5.65	
15 Phenanthrene	178	7.432	7.432	0.000	96	1009376	5.00	5.37	
16 Anthracene	178	7.485	7.485	0.000	99	961884	5.00	5.43	
17 Fluoranthene	202	8.730	8.730	0.000	98	1030553	5.00	5.47	
18 Pyrene	202	8.971	8.971	0.000	98	1057232	5.00	5.10	
19 Benzo[a]anthracene	228	10.217	10.217	0.000	99	784756	5.00	5.40	
20 Chrysene	228	10.252	10.252	0.000	99	770120	5.00	5.41	
21 Benzo[b]fluoranthene	252	11.269	11.269	0.000	98	682051	5.00	5.18	
22 Benzo[k]fluoranthene	252	11.298	11.298	0.000	98	767610	5.00	5.59	
23 Benzo[a]pyrene	252	11.610	11.610	0.000	96	615907	5.00	5.30	
24 Indeno[1,2,3-cd]pyrene	276	13.002	13.002	0.000	98	624886	5.00	4.75	
25 Dibenz(a,h)anthracene	278	13.037	13.037	0.000	94	530934	5.00	4.55	
26 Benzo[g,h,i]perylene	276	13.402	13.402	0.000	96	525396	5.00	4.46	

Reagents:

SMLLPAH5.0LVI_00020

Amount Added: 1.00

Units: mL

Report Date: 27-Aug-2014 17:01:08

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2602.D

Injection Date: 26-Aug-2014 13:59:30

Instrument ID: CMSK

Operator ID: RM

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

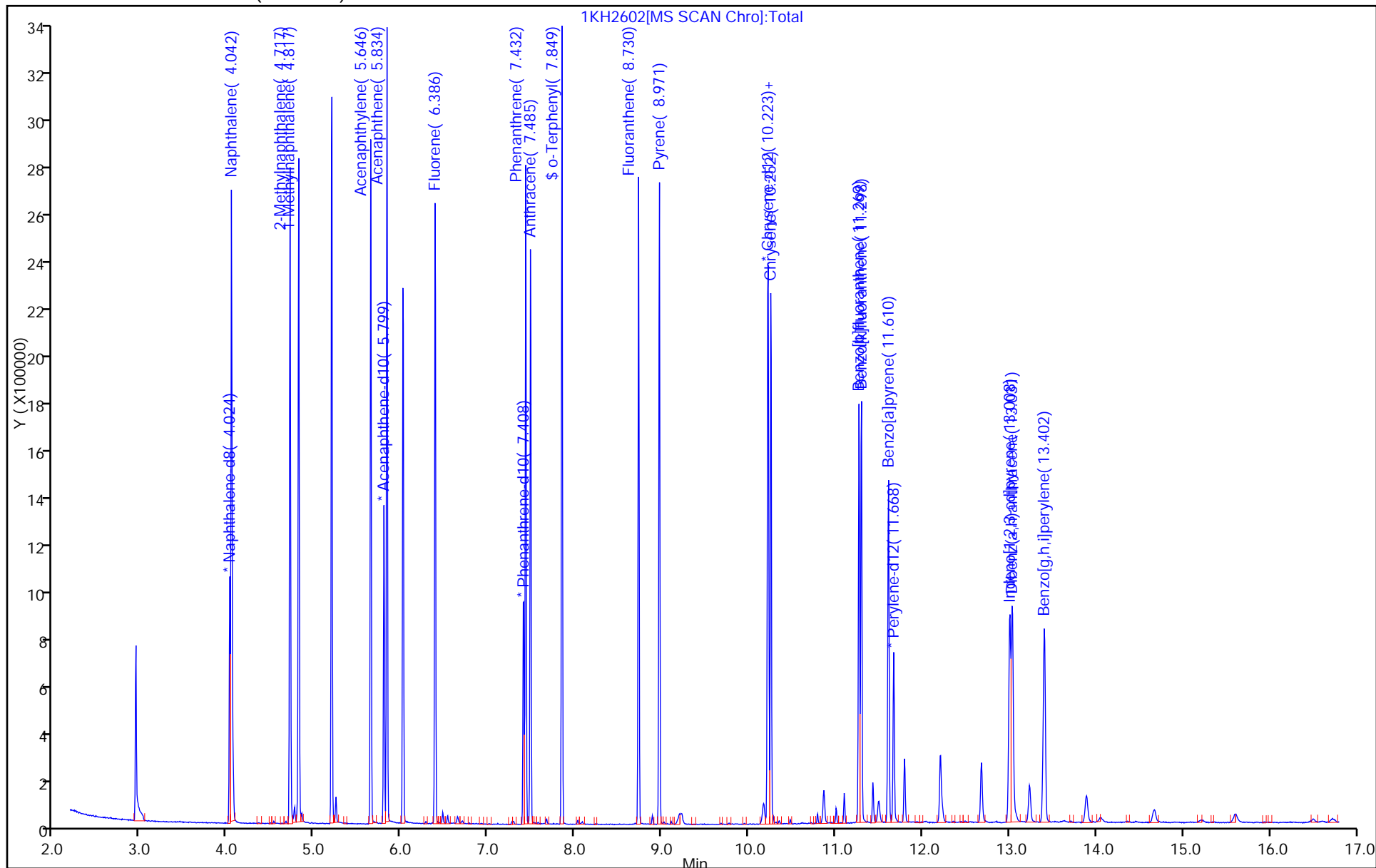
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270_LLPAH_CMSK

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab Sample ID: CCVIS 680-345693/2 Calibration Date: 08/25/2014 11:27
Instrument ID: CMSY Calib Start Date: 04/21/2014 10:36
GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 04/21/2014 13:16
Lab File ID: 1YH2502.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	QuaF		1.482			5.00		20.0
Dibenzofuran	QuaF				0.200	5.00		

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2502.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 25-Aug-2014 11:27:30 ALS Bottle#: 2 Worklist Smp#: 2
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: CCVIS
 Misc. Info.: 680-0012210-002
 Operator ID: RM Instrument ID: CMSY
 Sublist: chrom-8270D_LLPAH_MSY*sub1
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 25-Aug-2014 16:31:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK027

First Level Reviewer: waldorfj

Date: 25-Aug-2014 11:47:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	100	338071	2.00	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	185394	2.00	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	260585	2.00	2.00	
* 4 Chrysene-d12	240	10.636	10.636	0.000	99	200319	2.00	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	98	166054	2.00	2.00	
\$ 6 o-Terphenyl	230	8.191	8.191	0.000	90	376507	5.00	5.15	
7 Naphthalene	128	4.271	4.271	0.000	99	847835	5.00	5.42	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	85	533826	5.00	5.28	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	92	513464	5.00	5.28	
10 1,1'-Biphenyl	154	5.463	5.463	0.000	0	686730	NC	NC	
11 Acenaphthylene	152	5.934	5.934	0.000	97	798504	5.00	5.31	
12 Acenaphthene	153	6.127	6.127	0.000	94	498195	5.00	5.28	
14 Fluorene	166	6.699	6.699	0.000	96	506285	5.00	4.98	
15 Phenanthrene	178	7.774	7.774	0.000	98	665932	5.00	5.31	
16 Anthracene	178	7.833	7.833	0.000	99	658976	5.00	5.33	
17 Fluoranthene	202	9.106	9.106	0.000	98	628569	5.00	5.15	
18 Pyrene	202	9.352	9.352	0.000	98	641609	5.00	4.93	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	98	514944	5.00	5.13	
20 Chrysene	228	10.662	10.662	0.000	99	488810	5.00	5.03	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	99	482249	5.00	5.30	
22 Benzo[k]fluoranthene	252	11.807	11.807	0.000	99	447181	5.00	5.02	
23 Benzo[a]pyrene	252	12.176	12.176	0.000	97	383468	5.00	5.19	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	99	380303	5.00	5.44	
25 Dibenzo[a,h]anthracene	278	13.887	13.887	0.000	95	308946	5.00	5.11	
26 Benzo[g,h,i]perylene	276	14.347	14.347	0.000	99	325651	5.00	5.17	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SMLLPAH5.0LVI_00020

Amount Added: 1.00

Units: mL

Report Date: 25-Aug-2014 16:31:50

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2502.D

Injection Date: 25-Aug-2014 11:27:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

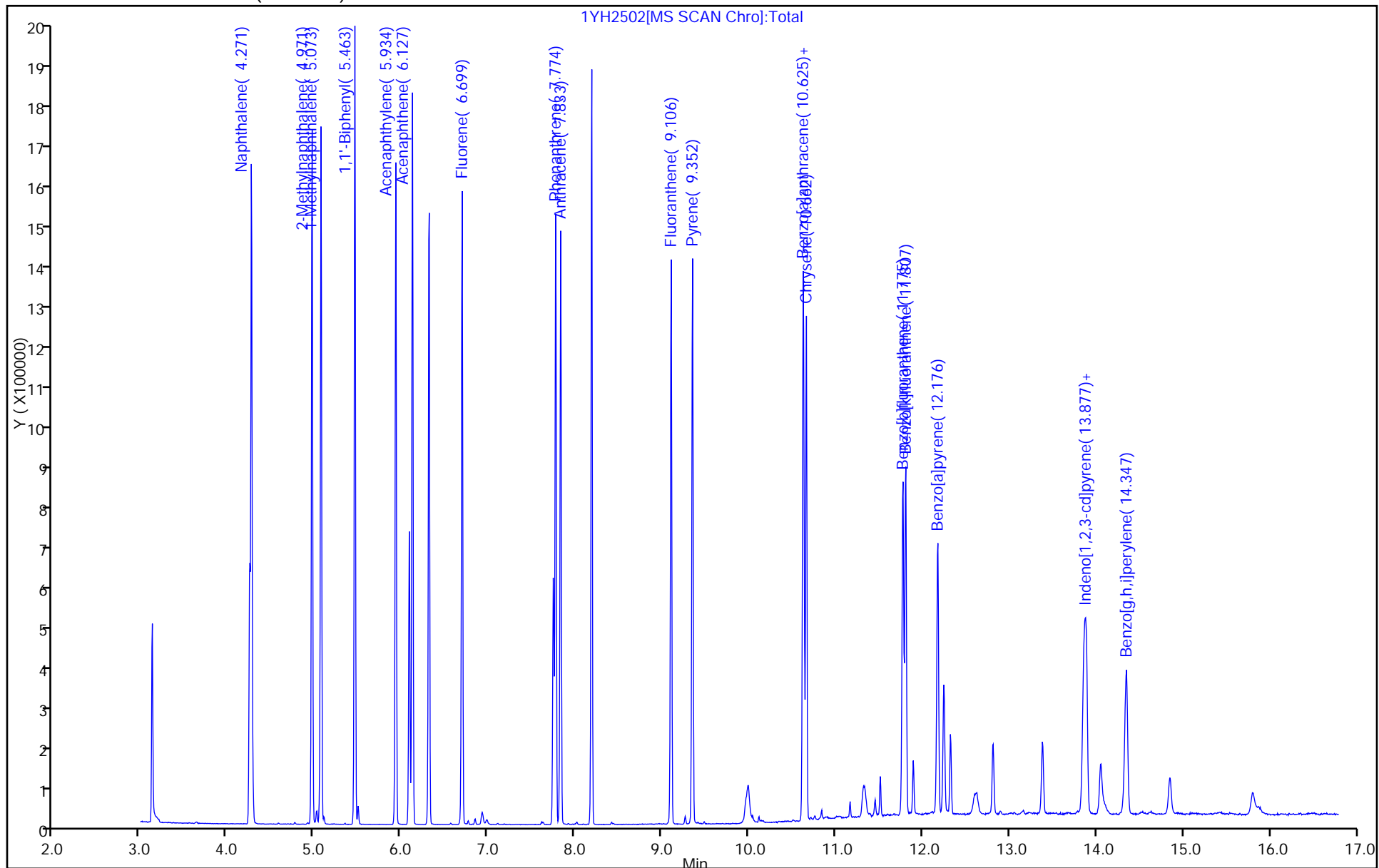
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: CCVIS 680-345693/2 Calibration Date: 08/25/2014 11:27
 Instrument ID: CMSY Calib Start Date: 08/20/2014 13:27
 GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 08/20/2014 15:43
 Lab File ID: 1YH2502.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	0.9248	1.003	0.7000	5.42	5.00	8.5	20.0
2-Methylnaphthalene	Ave	0.5982	0.6316	0.4000	5.28	5.00	5.6	20.0
1-Methylnaphthalene	Ave	0.5754	0.6075		5.28	5.00	5.6	20.0
Acenaphthylene	Ave	1.622	1.723	0.9000	5.31	5.00	6.2	20.0
Acenaphthene	Ave	1.018	1.075	0.9000	5.28	5.00	5.5	20.0
Fluorene	Ave	1.097	1.092	0.9000	4.98	5.00	-0.4	20.0
Phenanthrene	Ave	0.9622	1.022	0.7000	5.31	5.00	6.2	20.0
Anthracene	Ave	0.9486	1.012	0.7000	5.33	5.00	6.6	20.0
Fluoranthene	Ave	0.9366	0.9649	0.6000	5.15	5.00	3.0	20.0
Pyrene	Ave	1.300	1.281	0.6000	4.93	5.00	-1.4	20.0
Benzo[a]anthracene	Ave	1.001	1.028	0.7000	5.13	5.00	2.7	20.0
Chrysene	Ave	0.9712	0.9761	0.7000	5.03	5.00	0.5	20.0
Benzo[b]fluoranthene	Ave	1.095	1.162	0.4000	5.30	5.00	6.1	20.0
Benzo[k]fluoranthene	Ave	1.074	1.077	0.4000	5.02	5.00	0.3	20.0
Benzo[a]pyrene	Ave	0.8901	0.9237	0.4000	5.19	5.00	3.8	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.6974	0.7594	0.2000	5.44	5.00	8.9	20.0
Dibenz(a,h)anthracene	Ave	0.7277	0.7442	0.2000	5.11	5.00	2.3	20.0
Benzo[g,h,i]perylene	Ave	0.7591	0.7845	0.2000	5.17	5.00	3.3	20.0
o-Terphenyl	Ave	0.7297	0.7518		5.15	5.00	3.0	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2502.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 25-Aug-2014 11:27:30 ALS Bottle#: 2 Worklist Smp#: 2
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: CCVIS
 Misc. Info.: 680-0012210-002
 Operator ID: RM Instrument ID: CMSY
 Sublist: chrom-8270D_LLPAH_MSY*sub1
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 25-Aug-2014 16:31:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK027

First Level Reviewer: waldorfj

Date: 25-Aug-2014 11:47:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	100	338071	2.00	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	185394	2.00	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	260585	2.00	2.00	
* 4 Chrysene-d12	240	10.636	10.636	0.000	99	200319	2.00	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	98	166054	2.00	2.00	
\$ 6 o-Terphenyl	230	8.191	8.191	0.000	90	376507	5.00	5.15	
7 Naphthalene	128	4.271	4.271	0.000	99	847835	5.00	5.42	
8 2-Methylnaphthalene	142	4.971	4.971	0.000	85	533826	5.00	5.28	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	92	513464	5.00	5.28	
10 1,1'-Biphenyl	154	5.463	5.463	0.000	0	686730	NC	NC	
11 Acenaphthylene	152	5.934	5.934	0.000	97	798504	5.00	5.31	
12 Acenaphthene	153	6.127	6.127	0.000	94	498195	5.00	5.28	
14 Fluorene	166	6.699	6.699	0.000	96	506285	5.00	4.98	
15 Phenanthrene	178	7.774	7.774	0.000	98	665932	5.00	5.31	
16 Anthracene	178	7.833	7.833	0.000	99	658976	5.00	5.33	
17 Fluoranthene	202	9.106	9.106	0.000	98	628569	5.00	5.15	
18 Pyrene	202	9.352	9.352	0.000	98	641609	5.00	4.93	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	98	514944	5.00	5.13	
20 Chrysene	228	10.662	10.662	0.000	99	488810	5.00	5.03	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	99	482249	5.00	5.30	
22 Benzo[k]fluoranthene	252	11.807	11.807	0.000	99	447181	5.00	5.02	
23 Benzo[a]pyrene	252	12.176	12.176	0.000	97	383468	5.00	5.19	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	99	380303	5.00	5.44	
25 Dibenzo[a,h]anthracene	278	13.887	13.887	0.000	95	308946	5.00	5.11	
26 Benzo[g,h,i]perylene	276	14.347	14.347	0.000	99	325651	5.00	5.17	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SMLLPAH5.0LVI_00020

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2502.D

Injection Date: 25-Aug-2014 11:27:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: CCVIS

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

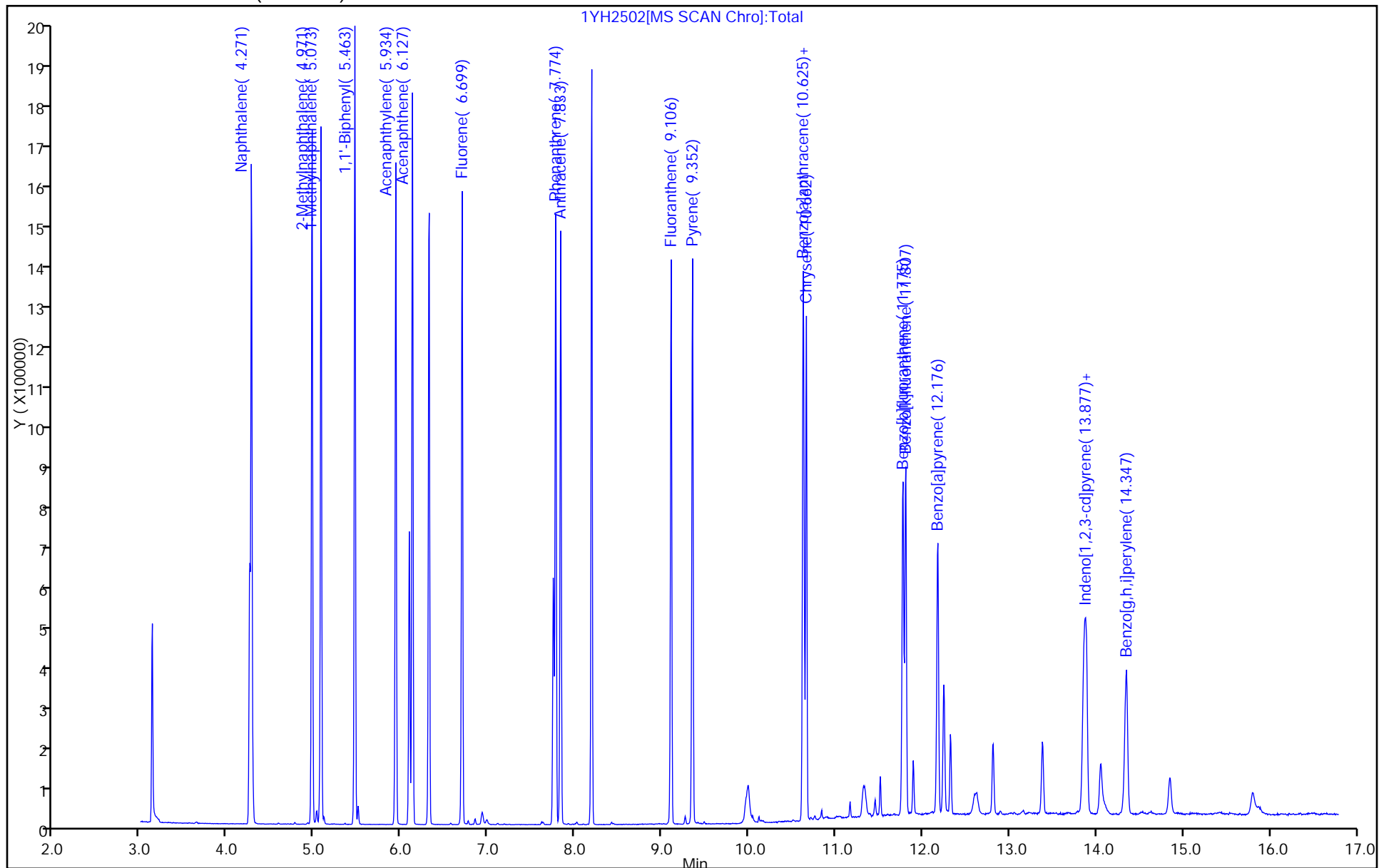
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab Sample ID: CCVIS 680-346540/21 Calibration Date: 08/29/2014 10:37
Instrument ID: CMSY Calib Start Date: 04/21/2014 10:36
GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 04/21/2014 13:16
Lab File ID: 1YH2921.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	QuaF		1.451		5.46	5.00	9.2	20.0
Dibenzofuran	QuaF				0.200	5.00		

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2921.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 29-Aug-2014 10:37:30 ALS Bottle#: 2 Worklist Smp#: 21
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: CCVIS
 Misc. Info.: 680-0012365-021
 Operator ID: RM Instrument ID: CMSY
 Sublist: chrom-8270D_LLPAH_MSY*sub5
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 29-Aug-2014 12:11:05 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK031

First Level Reviewer: webbk

Date: 29-Aug-2014 12:11:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.212	4.212	0.000	99	288273	2.00	2.00	
* 2 Acenaphthene-d10	164	6.046	6.046	0.000	91	165649	2.00	2.00	
* 3 Phenanthrene-d10	188	7.704	7.704	0.000	98	263676	2.00	2.00	
* 4 Chrysene-d12	240	10.598	10.598	0.000	99	254586	2.00	2.00	
* 5 Perylene-d12	264	12.192	12.192	0.000	99	223901	2.00	2.00	
\$ 6 o-Terphenyl	230	8.148	8.148	0.000	90	409346	5.00	4.06	
7 Naphthalene	128	4.233	4.233	0.000	99	781447	5.00	5.21	
8 2-Methylnaphthalene	142	4.929	4.929	0.000	84	508763	5.00	5.46	
9 1-Methylnaphthalene	142	5.030	5.030	0.000	91	476968	5.00	5.22	
10 1,1'-Biphenyl	154	5.421	5.421	0.000	0	600800	5.00	5.46	
11 Acenaphthylene	152	5.891	5.891	0.000	97	795789	5.00	5.27	
12 Acenaphthene	153	6.084	6.084	0.000	94	500372	5.00	5.10	
14 Fluorene	166	6.656	6.656	0.000	95	548710	5.00	5.73	
15 Phenanthrene	178	7.731	7.731	0.000	97	768732	5.00	5.18	
16 Anthracene	178	7.790	7.790	0.000	99	756000	5.00	5.44	
17 Fluoranthene	202	9.063	9.063	0.000	98	787927	5.00	5.37	
18 Pyrene	202	9.309	9.309	0.000	98	837531	5.00	4.57	
19 Benzo[a]anthracene	228	10.587	10.587	0.000	98	718451	5.00	5.21	
20 Chrysene	228	10.625	10.625	0.000	99	662543	5.00	4.95	
21 Benzo[b]fluoranthene	252	11.727	11.727	0.000	99	705448	5.00	4.96	
22 Benzo[k]fluoranthene	252	11.759	11.759	0.000	99	768601	5.00	5.71	
23 Benzo[a]pyrene	252	12.128	12.128	0.000	98	630065	5.00	5.38	
24 Indeno[1,2,3-cd]pyrene	276	13.791	13.791	0.000	99	612380	5.00	5.88	
25 Dibenz(a,h)anthracene	278	13.818	13.818	0.000	95	486030	5.00	5.64	
26 Benzo[g,h,i]perylene	276	14.273	14.273	0.000	98	524953	5.00	5.44	

Reagents:

SMLLPAH5.0LVI_00022

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2921.D

Injection Date: 29-Aug-2014 10:37:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: CCVIS

Worklist Smp#: 21

Client ID:

Injection Vol: 2.0 ul

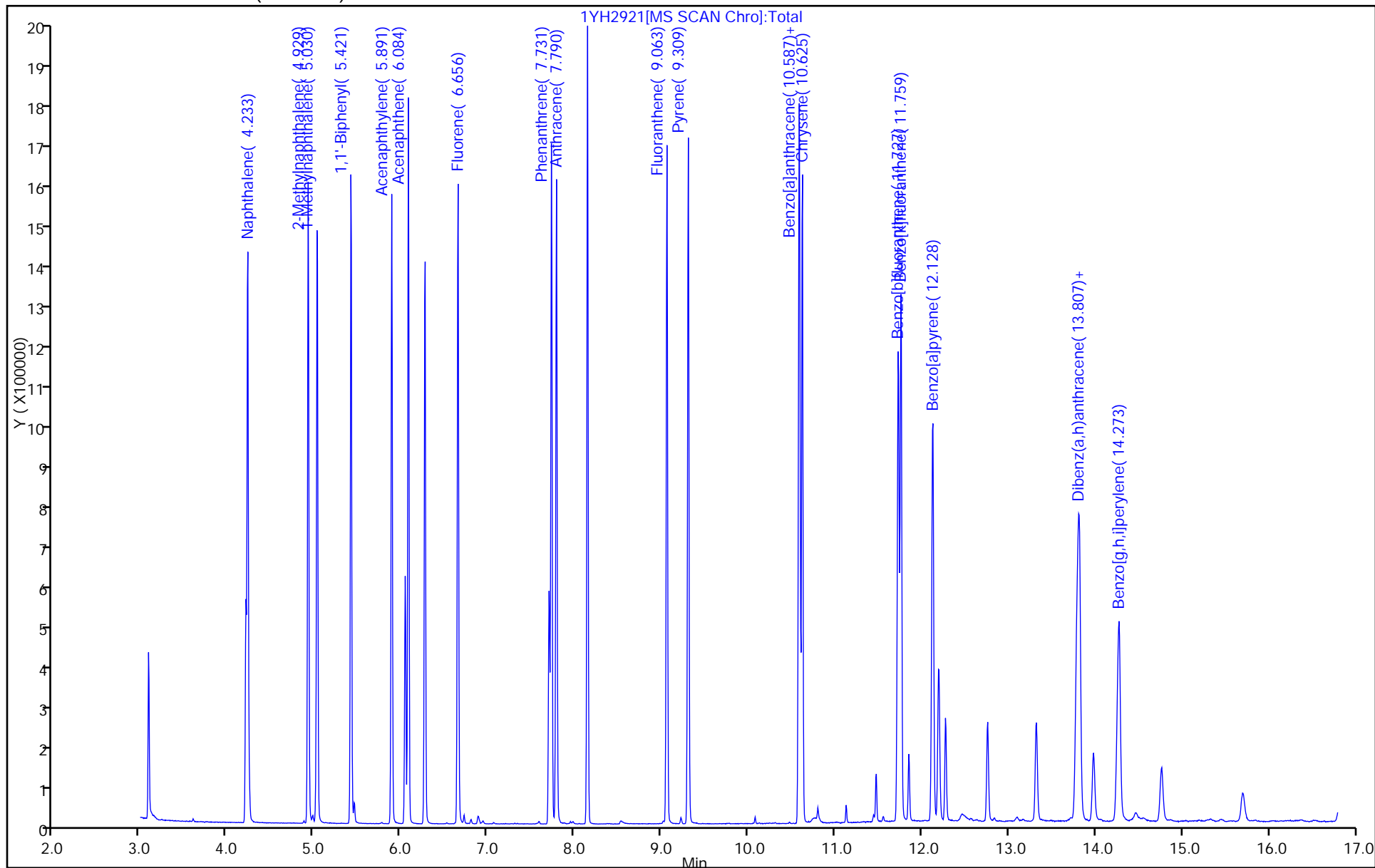
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: CCVIS 680-346540/21 Calibration Date: 08/29/2014 10:37
 Instrument ID: CMSY Calib Start Date: 08/20/2014 13:27
 GC Column: RXi- 5Sil MS ID: 0.25 (mm) Calib End Date: 08/20/2014 15:43
 Lab File ID: 1YH2921.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Naphthalene	Ave	0.9248	1.084	0.7000	5.21	5.00	17.3	20.0
2-Methylnaphthalene	Ave	0.5982	0.7060	0.4000	5.46	5.00	18.0	20.0
1-Methylnaphthalene	Ave	0.5754	0.6618		5.22	5.00	15.0	20.0
Acenaphthylene	Ave	1.622	1.922	0.9000	5.27	5.00	18.4	20.0
Acenaphthene	Ave	1.018	1.208	0.9000	5.10	5.00	18.6	20.0
Fluorene	Ave	1.097	1.325	0.9000	5.73	5.00	20.8*	20.0
Phenanthrene	Ave	0.9622	1.166	0.7000	5.18	5.00	21.2*	20.0
Anthracene	Ave	0.9486	1.147	0.7000	5.44	5.00	20.9*	20.0
Fluoranthene	Ave	0.9366	1.195	0.6000	5.37	5.00	27.6*	20.0
Pyrene	Ave	1.300	1.316	0.6000	4.57	5.00	1.2	20.0
Benzo[a]anthracene	Ave	1.001	1.129	0.7000	5.21	5.00	12.7	20.0
Chrysene	Ave	0.9712	1.041	0.7000	4.95	5.00	7.2	20.0
Benzo[b]fluoranthene	Ave	1.095	1.260	0.4000	4.96	5.00	15.1	20.0
Benzo[k]fluoranthene	Ave	1.074	1.373	0.4000	5.71	5.00	27.9*	20.0
Benzo[a]pyrene	Ave	0.8901	1.126	0.4000	5.38	5.00	26.5*	20.0
Indeno[1,2,3-cd]pyrene	Ave	0.6974	0.9622	0.2000	5.88	5.00	38.0*	20.0
Dibenz(a,h)anthracene	Ave	0.7277	0.8683	0.2000	5.64	5.00	19.3	20.0
Benzo[g,h,i]perylene	Ave	0.7591	0.9378	0.2000	5.44	5.00	23.5*	20.0
o-Terphenyl	Ave	0.7297	0.6432		4.06	5.00	-11.9	20.0

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2921.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 29-Aug-2014 10:37:30 ALS Bottle#: 2 Worklist Smp#: 21
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: CCVIS
 Misc. Info.: 680-0012365-021
 Operator ID: RM Instrument ID: CMSY
 Sublist: chrom-8270D_LLPAH_MSY*sub5
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 29-Aug-2014 12:11:05 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK031

First Level Reviewer: webbk

Date: 29-Aug-2014 12:11:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.212	4.212	0.000	99	288273	2.00	2.00	
* 2 Acenaphthene-d10	164	6.046	6.046	0.000	91	165649	2.00	2.00	
* 3 Phenanthrene-d10	188	7.704	7.704	0.000	98	263676	2.00	2.00	
* 4 Chrysene-d12	240	10.598	10.598	0.000	99	254586	2.00	2.00	
* 5 Perylene-d12	264	12.192	12.192	0.000	99	223901	2.00	2.00	
\$ 6 o-Terphenyl	230	8.148	8.148	0.000	90	409346	5.00	4.06	
7 Naphthalene	128	4.233	4.233	0.000	99	781447	5.00	5.21	
8 2-Methylnaphthalene	142	4.929	4.929	0.000	84	508763	5.00	5.46	
9 1-Methylnaphthalene	142	5.030	5.030	0.000	91	476968	5.00	5.22	
10 1,1'-Biphenyl	154	5.421	5.421	0.000	0	600800	5.00	5.46	
11 Acenaphthylene	152	5.891	5.891	0.000	97	795789	5.00	5.27	
12 Acenaphthene	153	6.084	6.084	0.000	94	500372	5.00	5.10	
14 Fluorene	166	6.656	6.656	0.000	95	548710	5.00	5.73	
15 Phenanthrene	178	7.731	7.731	0.000	97	768732	5.00	5.18	
16 Anthracene	178	7.790	7.790	0.000	99	756000	5.00	5.44	
17 Fluoranthene	202	9.063	9.063	0.000	98	787927	5.00	5.37	
18 Pyrene	202	9.309	9.309	0.000	98	837531	5.00	4.57	
19 Benzo[a]anthracene	228	10.587	10.587	0.000	98	718451	5.00	5.21	
20 Chrysene	228	10.625	10.625	0.000	99	662543	5.00	4.95	
21 Benzo[b]fluoranthene	252	11.727	11.727	0.000	99	705448	5.00	4.96	
22 Benzo[k]fluoranthene	252	11.759	11.759	0.000	99	768601	5.00	5.71	
23 Benzo[a]pyrene	252	12.128	12.128	0.000	98	630065	5.00	5.38	
24 Indeno[1,2,3-cd]pyrene	276	13.791	13.791	0.000	99	612380	5.00	5.88	
25 Dibenz(a,h)anthracene	278	13.818	13.818	0.000	95	486030	5.00	5.64	
26 Benzo[g,h,i]perylene	276	14.273	14.273	0.000	98	524953	5.00	5.44	

Reagents:

SMLLPAH5.0LVI_00022

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2921.D

Injection Date: 29-Aug-2014 10:37:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: CCVIS

Worklist Smp#: 21

Client ID:

Injection Vol: 2.0 ul

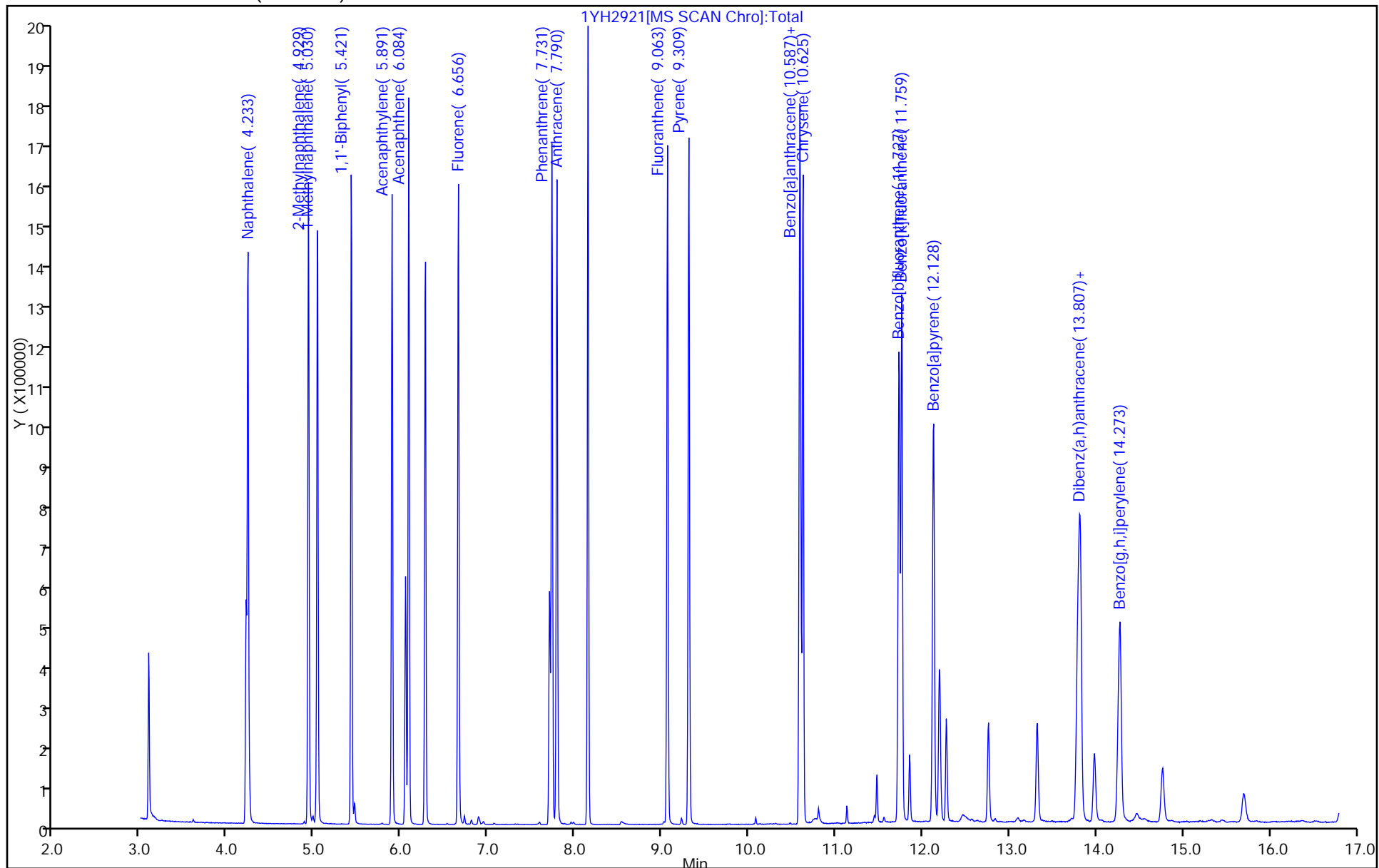
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D
 Lims ID: DFTPP
 Client ID:
 Sample Type: DFTPP
 Inject. Date: 22-Aug-2014 11:38:30 ALS Bottle#: 1 Worklist Smp#: 11
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: DFTPP
 Misc. Info.: 680-0012162-011
 Operator ID: RM Instrument ID: CMSK
 Method: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\8270_LLPAH\CMSK.m
 Limit Group: 8270D_LL_PAH
 Last Update: 22-Aug-2014 15:50:30 Calib Date: 22-Aug-2014 14:16:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK004

First Level Reviewer: moorer

Date: 22-Aug-2014 12:17:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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27 DFTPP

28 4,4'-DDD	235	6.929	6.929	0.000	96	34705		NR	7
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29 4,4'-DDT	235	7.229	7.229	0.000	97	3659361	NR	NR	7
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Reagents:

SM-LLTUNE_00073

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D

Injection Date: 22-Aug-2014 11:38:30

Instrument ID: CMSK

Lims ID: DFTPP

Client ID:

Operator ID: RM

ALS Bottle#: 1 Worklist Smp#: 11

Injection Vol: 2.0 ul

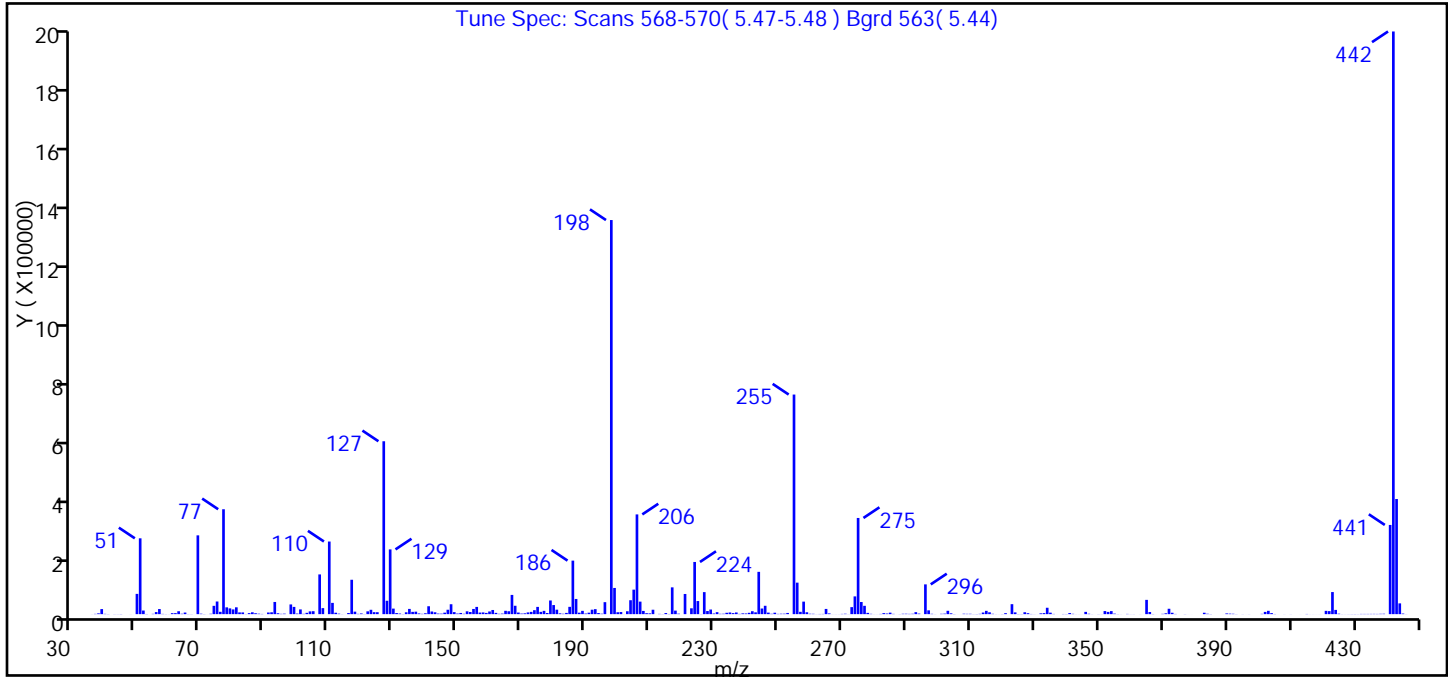
Dil. Factor: 1.0000

Method: 8270_LLPAH\CMSK

Limit Group: 8270D_LL_PAH

Tune Method: DFTPP Method 525.2, BP 442

27 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
442	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 442	13.00
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Present	13.50
70	Less than 2.00% of mass 69	0.10 (0.60)
127	10.00 - 80.00% of mass 442	29.70
197	Less than 2.00% of mass 198	0.00 (0.00)
198	Greater than 50.00% of mass 442	67.60
199	5.00 - 9.00% of mass 198	4.50 (6.60)
275	10.00 - 60.00% of mass 442	16.50
365	Greater than 1.00% of mass 442	2.40
441	Present, but less than mass 443	15.30 (77.50)
443	15.00 - 24.00% of mass 442	19.80

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D\8270_LLPAH\CMSK.rsl\spectra.d
Injection Date: 22-Aug-2014 11:38:30
Spectrum: Tune Spec: Scans 568-570(5.47-5.48) Bgrd 563(5.44)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	143	139.00	1054	235.00	5629	331.00	84
37.00	912	140.00	3036	236.00	3541	332.00	2691
38.00	2685	141.00	26712	237.00	5687	333.00	3498
39.00	17112	142.00	8971	238.00	892	334.00	21600
40.00	985	143.00	6325	239.00	2625	335.00	4985
41.00	389	144.00	1878	240.00	2283	336.00	745
43.00	311	145.00	1674	241.00	4514	337.00	63
44.00	263	146.00	4968	242.00	9872	339.00	563
45.00	495	147.00	14871	243.00	6103	340.00	478
48.00	118	148.00	33528	244.00	143104	341.00	3729
50.00	68552	149.00	6810	245.00	19032	342.00	1095
51.00	256512	150.00	1935	246.00	28280	343.00	164
52.00	12203	151.00	3998	247.00	5180	344.00	129
53.00	533	152.00	1232	248.00	1238	345.00	68
55.00	1019	153.00	9580	249.00	4831	346.00	7681
56.00	6975	154.00	7211	250.00	898	347.00	1303
57.00	17232	155.00	17512	251.00	1448	348.00	232
58.00	830	156.00	24488	252.00	1523	349.00	52
59.00	335	157.00	5332	253.00	4022	350.00	320
60.00	162	158.00	5809	255.00	742912	351.00	194
61.00	3343	159.00	4122	256.00	106568	352.00	10382
62.00	3455	160.00	9029	257.00	7842	353.00	7561
63.00	9798	161.00	14089	258.00	42360	354.00	10278
64.00	1355	162.00	4301	259.00	6416	355.00	1778
65.00	5390	163.00	1125	260.00	1334	356.00	357
66.00	315	164.00	1840	261.00	1141	357.00	158
67.00	314	165.00	11252	262.00	240	359.00	782
69.00	266560	166.00	9801	263.00	633	360.00	205
70.00	1504	167.00	65040	264.00	765	361.00	249
71.00	416	168.00	28320	265.00	17640	363.00	153
72.00	102	169.00	5397	266.00	2461	365.00	48280
73.00	1253	170.00	1947	267.00	170	366.00	7257
74.00	28112	171.00	2794	268.00	176	367.00	556

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D\8270_LLPAH_CMSK.rsl\spectra.d

Injection Date: 22-Aug-2014 11:38:30

Spectrum: Tune Spec: Scans 568-570(5.47-5.48) Bgrd 563(5.44)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	42776	172.00	5848	269.00	172	368.00	55
76.00	7896	173.00	7646	270.00	810	370.00	1031
77.00	354880	174.00	13380	271.00	1361	371.00	2924
78.00	22968	175.00	24512	272.00	225	372.00	18200
79.00	19496	176.00	7727	273.00	23720	373.00	4678
80.00	15932	177.00	11162	274.00	60064	374.00	668
81.00	23104	178.00	3873	275.00	325376	377.00	363
82.00	5887	179.00	46200	276.00	41024	378.00	65
83.00	5817	180.00	30728	277.00	28168	379.00	53
84.00	385	181.00	15079	278.00	4282	383.00	4740
85.00	3460	182.00	2697	279.00	1070	384.00	1334
86.00	6294	183.00	1332	280.00	193	385.00	449
87.00	3117	184.00	4187	281.00	160	389.00	53
88.00	1512	185.00	24720	282.00	749	390.00	2372
89.00	679	186.00	181056	283.00	3437	391.00	1686
91.00	5554	187.00	51352	284.00	2109	392.00	1253
92.00	6254	188.00	4931	285.00	5042	393.00	321
93.00	41192	189.00	11115	286.00	927	395.00	238
94.00	3009	190.00	1984	287.00	65	396.00	58
95.00	1011	191.00	4915	288.00	309	397.00	197
96.00	1635	192.00	15022	289.00	1250	401.00	1013
98.00	32848	193.00	16880	290.00	1378	402.00	7569
99.00	24512	194.00	3719	291.00	926	403.00	11252
100.00	1911	195.00	1451	292.00	1299	404.00	3547
101.00	15967	196.00	40536	293.00	6736	405.00	544
102.00	1035	198.00	1333248	294.00	1838	406.00	65
103.00	4432	199.00	88592	296.00	100720	408.00	162
104.00	9351	200.00	6404	297.00	12895	410.00	205
105.00	9950	201.00	7101	298.00	1112	413.00	73
107.00	134400	202.00	135	299.00	199	415.00	630
108.00	20368	203.00	9789	301.00	1173	416.00	123
110.00	245696	204.00	47088	302.00	1719	417.00	130
111.00	38112	205.00	82888	303.00	11326	418.00	85
112.00	4773	206.00	337408	304.00	2822	419.00	125

Report Date: 22-Aug-2014 15:50:30

Chrom Revision: 2.2 24-Jul-2014 14:43:32

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D\8270_LLPAH_CMSK.rsl\spectra.d

Injection Date: 22-Aug-2014 11:38:30

Spectrum: Tune Spec: Scans 568-570(5.47-5.48) Bgrd 563(5.44)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 368

m/z	Y	m/z	Y	m/z	Y	m/z	Y
113.00	1618	207.00	42352	305.00	471	421.00	11133
114.00	269	208.00	10875	306.00	77	422.00	10234
115.00	65	209.00	3222	307.00	68	423.00	74680
116.00	3787	210.00	2642	308.00	1426	424.00	14300
117.00	116320	211.00	14915	309.00	1063	425.00	1514
118.00	8427	213.00	886	310.00	1154	426.00	256
119.00	928	214.00	346	311.00	323	427.00	176
120.00	2318	215.00	3716	312.00	477	428.00	255
121.00	349	216.00	558	313.00	1026	429.00	357
122.00	9463	217.00	90624	314.00	5445	430.00	440
123.00	14733	218.00	11897	315.00	11132	431.00	287
124.00	6702	219.00	1596	316.00	6245	432.00	748
125.00	6548	221.00	68224	317.00	1200	433.00	740
127.00	584896	223.00	19760	318.00	219	434.00	764
128.00	45280	224.00	176512	319.00	111	435.00	840
129.00	219008	225.00	44296	320.00	355	436.00	906
130.00	18720	226.00	327	321.00	3320	437.00	780
131.00	3638	227.00	74504	323.00	33752	438.00	1138
132.00	2010	228.00	10473	324.00	5922	439.00	1356
133.00	417	229.00	15602	325.00	442	441.00	301760
134.00	6224	230.00	2169	326.00	409	442.00	1971200
135.00	17704	231.00	6699	327.00	6409	443.00	389504
136.00	7710	232.00	1111	328.00	3229	444.00	36448
137.00	8377	233.00	1407	329.00	626	445.00	1956
138.00	2324	234.00	4582	330.00	230	446.00	237

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2211.D
Injection Date: 22-Aug-2014 11:38:30 Instrument ID: CMSK
Lims ID: DFTPP
Client ID:
Operator ID: RM ALS Bottle#: 1 Worklist Smp#: 11
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8270_LLPAH\CMSK Limit Group: 8270D_LL_PAH

29 4,4'-DDT, Detector: MS SCAN

SW-846 Method

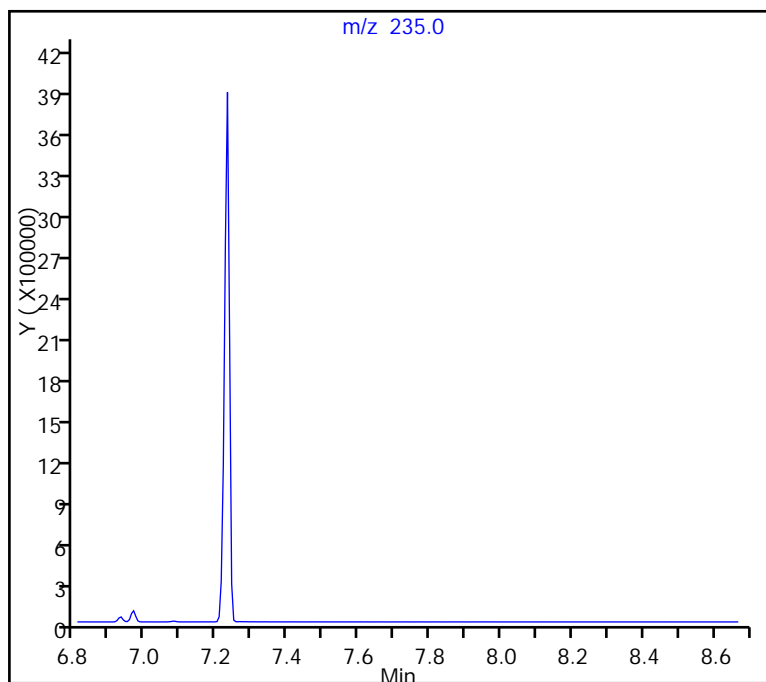
%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

29 4,4'-DDT, Area = 3659361

28 4,4'-DDD, Area = 34705

30 4,4'-DDE, Area = 0

%Breakdown: 0.94%, Max Limit: 20.00%
Passed



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 26-Aug-2014 13:44:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 680-0012269-001
Operator ID: RM Instrument ID: CMSK
Method: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\8270_LLPAH\CMSK.m
Limit Group: 8270D_LL_PAH
Last Update: 27-Aug-2014 17:00:45 Calib Date: 22-Aug-2014 14:16:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\SAVCHROM\ChromData\CMSK\20140822-12162.b\1KH2208.D
Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
Process Host: XAWRK016

First Level Reviewer: davisn

Date: 27-Aug-2014 13:21:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
----------	-----	--------------	------------------	------------------	---	----------	------------------	--------------------	-------

27 DFTPP

28 4,4'-DDD 235 6.718 6.718 0.000 93 6805 NR NR 7

29 4,4'-DDT 235 6.941 6.941 0.000 98 289401 NR NR 7

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Reagents:

SM-LLTUNE_00074

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D

Injection Date: 26-Aug-2014 13:44:30

Instrument ID: CMSK

Lims ID: DFTPP

Client ID:

Operator ID: RM

ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 2.0 ul

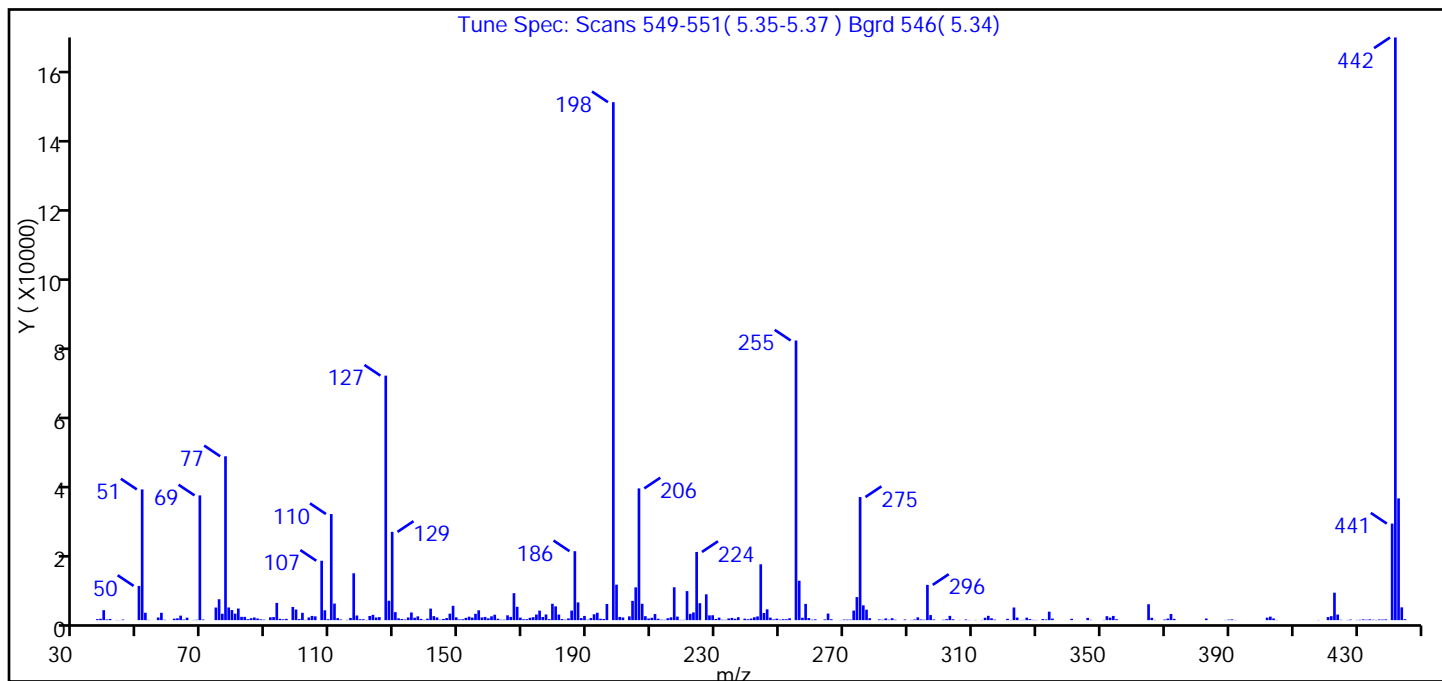
Dil. Factor: 1.0000

Method: 8270_LLPAH\CMSK

Limit Group: 8270D_LL_PAH

Tune Method: DFTPP Method 525.2, BP 442

27 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
442	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 442	22.40
68	Less than 2.00% of mass 69	0.10 (0.30)
69	Present	21.40
70	Less than 2.00% of mass 69	0.10 (0.50)
127	10.00 - 80.00% of mass 442	42.00
197	Less than 2.00% of mass 198	0.00 (0.00)
198	Greater than 50.00% of mass 442	88.90
199	5.00 - 9.00% of mass 198	6.10 (6.80)
275	10.00 - 60.00% of mass 442	21.10
365	Greater than 1.00% of mass 442	2.70
441	Present, but less than mass 443	16.60 (79.30)
443	15.00 - 24.00% of mass 442	20.90

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D\8270_LLPAH\CMSK.rsl\spectra.d
Injection Date: 26-Aug-2014 13:44:30
Spectrum: Tune Spec: Scans 549-551(5.35-5.37) Bgrd 546(5.34)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	289	131.00	521	209.00	469	297.00	1454
38.00	394	132.00	329	210.00	681	298.00	193
39.00	2862	133.00	181	211.00	1750	301.00	119
40.00	206	134.00	769	212.00	398	302.00	284
41.00	341	135.00	2201	213.00	128	303.00	1229
43.00	51	136.00	694	214.00	98	304.00	254
44.00	28	137.00	1085	215.00	553	306.00	52
45.00	174	138.00	353	216.00	810	308.00	188
50.00	9819	139.00	74	217.00	9434	309.00	50
51.00	37504	140.00	416	218.00	1012	311.00	60
52.00	2116	141.00	3308	219.00	80	313.00	62
53.00	72	142.00	1150	220.00	82	314.00	688
56.00	761	143.00	771	221.00	8330	315.00	1242
57.00	2111	144.00	114	222.00	1805	316.00	531
58.00	99	145.00	339	223.00	2216	317.00	156
61.00	417	146.00	592	224.00	19568	321.00	386
62.00	531	147.00	1858	225.00	4865	322.00	50
63.00	1291	148.00	4105	227.00	7410	323.00	3624
64.00	184	149.00	811	228.00	1374	324.00	738
65.00	706	150.00	202	229.00	1409	325.00	56
67.00	59	151.00	256	230.00	350	326.00	68
68.00	100	152.00	649	231.00	730	327.00	720
69.00	35792	153.00	984	232.00	112	328.00	290
70.00	195	154.00	730	233.00	92	329.00	75
74.00	3620	155.00	1812	234.00	490	330.00	52
75.00	6001	156.00	2823	235.00	650	332.00	313
76.00	1837	157.00	779	236.00	402	333.00	201
77.00	47016	158.00	921	237.00	834	334.00	2434
78.00	3635	159.00	521	239.00	420	335.00	450
79.00	2896	160.00	1095	240.00	265	341.00	388
80.00	1859	161.00	1555	241.00	463	346.00	638
81.00	3330	162.00	419	242.00	831	347.00	82
82.00	948	163.00	123	243.00	1071	351.00	56

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D\8270_LLPAH\CMSK.rsl\spectra.d

Injection Date: 26-Aug-2014 13:44:30

Spectrum: Tune Spec: Scans 549-551(5.35-5.37) Bgrd 546(5.34)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	945	164.00	133	244.00	16023	352.00	1137
84.00	294	165.00	1386	245.00	2060	353.00	721
85.00	554	166.00	928	246.00	3106	354.00	1210
86.00	765	167.00	7736	247.00	719	355.00	276
87.00	477	168.00	3825	248.00	210	365.00	4566
88.00	236	169.00	733	249.00	431	366.00	679
89.00	150	170.00	261	250.00	149	367.00	51
91.00	822	171.00	270	251.00	278	370.00	185
92.00	873	172.00	681	252.00	263	371.00	437
93.00	4946	173.00	849	253.00	544	372.00	1761
94.00	378	174.00	1612	255.00	80232	373.00	358
95.00	235	175.00	2731	256.00	11305	383.00	465
96.00	360	176.00	911	257.00	686	389.00	61
98.00	3776	177.00	1627	258.00	4667	390.00	144
99.00	3049	178.00	289	259.00	604	391.00	225
100.00	303	179.00	4698	260.00	129	392.00	57
101.00	2105	180.00	3951	261.00	236	402.00	723
102.00	78	181.00	1604	264.00	209	403.00	1010
103.00	765	182.00	314	265.00	1891	404.00	486
104.00	1213	183.00	125	266.00	269	405.00	52
105.00	1084	184.00	498	269.00	54	418.00	57
107.00	17040	185.00	2743	270.00	165	421.00	893
108.00	2826	186.00	19784	271.00	163	422.00	1144
109.00	271	187.00	5086	272.00	149	423.00	7877
110.00	30448	188.00	585	273.00	2745	424.00	1605
111.00	4751	189.00	1213	274.00	6619	425.00	95
112.00	584	190.00	125	275.00	35320	427.00	62
113.00	189	191.00	604	276.00	4250	428.00	163
115.00	79	192.00	1688	277.00	2995	430.00	68
116.00	637	193.00	2121	278.00	563	431.00	114
117.00	13446	194.00	419	281.00	202	432.00	216
118.00	1329	195.00	341	282.00	106	433.00	129
119.00	270	196.00	4639	283.00	494	434.00	228
120.00	262	198.00	148608	284.00	128	435.00	106

Report Date: 27-Aug-2014 17:00:46

Chrom Revision: 2.2 24-Jul-2014 14:43:32

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D\8270_LLPAH\CMSK.rsl\spectra.d

Injection Date: 26-Aug-2014 13:44:30

Spectrum: Tune Spec: Scans 549-551(5.35-5.37) Bgrd 546(5.34)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	60	199.00	10178	285.00	548	436.00	79
122.00	1193	200.00	927	286.00	115	437.00	189
123.00	1517	201.00	769	289.00	194	438.00	171
124.00	766	203.00	1087	291.00	64	439.00	227
125.00	864	204.00	5532	292.00	185	441.00	27704
127.00	70152	205.00	9402	293.00	807	442.00	167168
128.00	5567	206.00	37800	294.00	184	443.00	34936
129.00	25328	207.00	4692	295.00	118	444.00	3671
130.00	2296	208.00	1136	296.00	10120	445.00	272

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSK\20140826-12269.b\1KH2601.D
Injection Date: 26-Aug-2014 13:44:30 Instrument ID: CMSK
Lims ID: DFTPP
Client ID:
Operator ID: RM ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8270_LLPAH\CMSK Limit Group: 8270D_LL_PAH

29 4,4'-DDT, Detector: MS SCAN

SW-846 Method

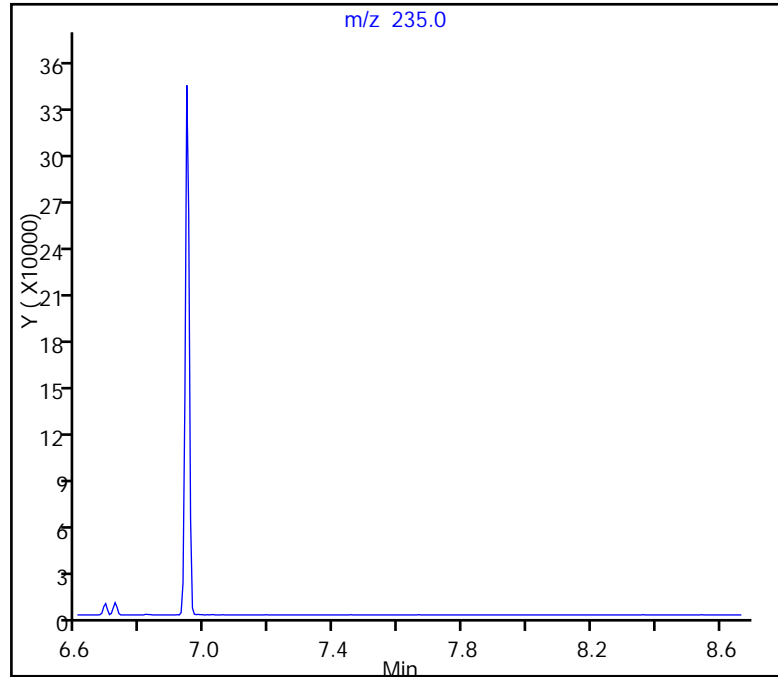
%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

29 4,4'-DDT, Area = 289401

28 4,4'-DDD, Area = 6805

30 4,4'-DDE, Area = 0

%Breakdown: 2.30%, Max Limit: 20.00%
Passed



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D
 Lims ID: DFTPP
 Client ID:
 Sample Type: DFTPP
 Inject. Date: 25-Aug-2014 11:07:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: DFTPP
 Misc. Info.: 680-0012210-001
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 25-Aug-2014 16:31:48 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK027

First Level Reviewer: waldorfj

Date: 25-Aug-2014 11:34:58

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
27 DFTPP									
28 4,4'-DDE	246	6.287	6.287	0.000	92	14503		NR	7
29 4,4'-DDD	235	6.747	6.747	0.000	52	240		NR	7
30 4,4'-DDT	235	6.838	6.838	0.000	96	2334311	NR	NR	7

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Reagents:

SM-LLTUNE_00073

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D

Injection Date: 25-Aug-2014 11:07:30

Instrument ID: CMSY

Lims ID: DFTPP

Client ID:

Operator ID: RM

ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 2.0 ul

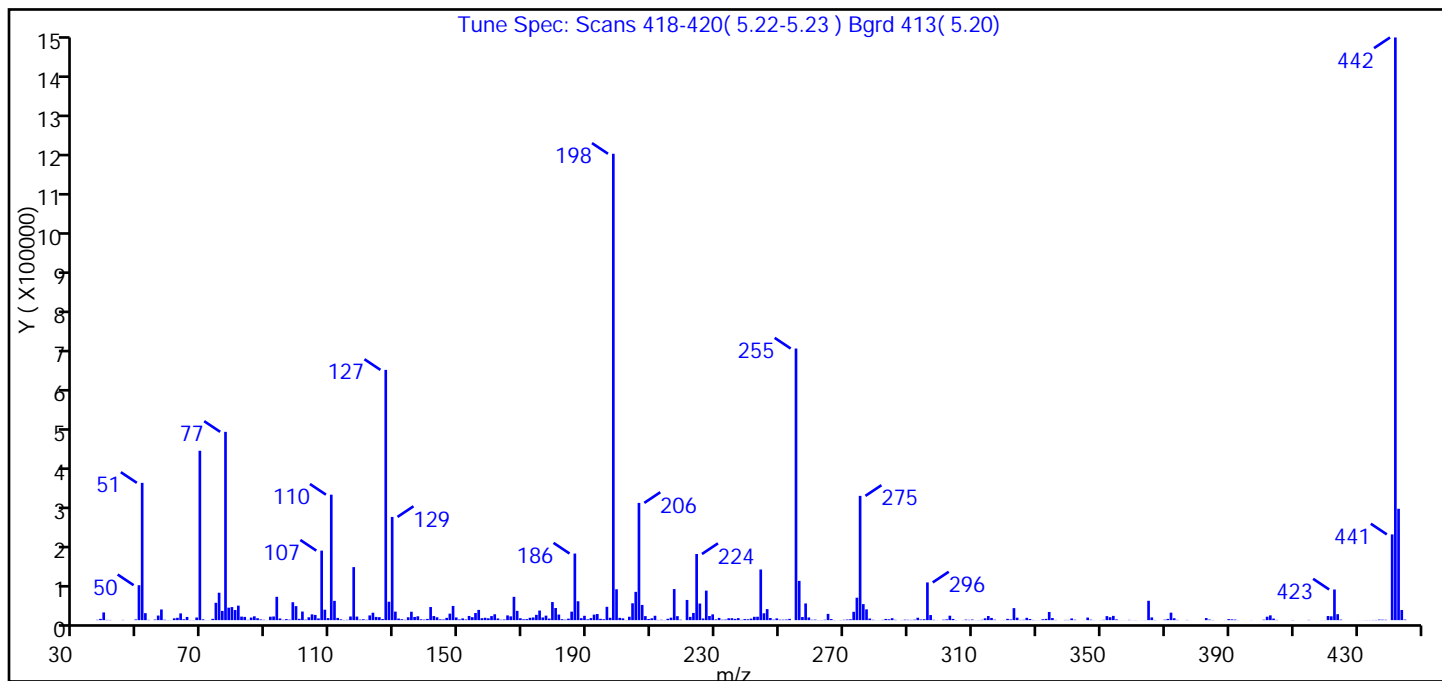
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Tune Method: DFTPP Method 525.2, BP 442

27 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
442	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 442	23.60
68	Less than 2.00% of mass 69	0.50 (1.60)
69	Present	29.10
70	Less than 2.00% of mass 69	0.10 (0.50)
127	10.00 - 80.00% of mass 442	43.00
197	Less than 2.00% of mass 198	0.40 (0.50)
198	Greater than 50.00% of mass 442	80.00
199	5.00 - 9.00% of mass 198	5.30 (6.60)
275	10.00 - 60.00% of mass 442	21.30
365	Greater than 1.00% of mass 442	3.30
441	Present, but less than mass 443	14.70 (77.00)
443	15.00 - 24.00% of mass 442	19.10

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D\8270D_LLPAH_MS.Y.rsl\spectra.d
Injection Date: 25-Aug-2014 11:07:30
Spectrum: Tune Spec: Scans 418-420(5.22-5.23) Bgrd 413(5.20)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 363

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	777	134.00	6951	226.00	4090	320.00	323
38.00	3069	135.00	20560	227.00	72256	321.00	3197
39.00	18896	136.00	7824	228.00	10126	322.00	1668
40.00	645	137.00	9427	229.00	14207	323.00	29424
41.00	501	138.00	2047	230.00	1761	324.00	5932
43.00	49	139.00	1309	231.00	5447	325.00	586
45.00	534	140.00	3015	232.00	1023	326.00	819
49.00	1750	141.00	32128	233.00	1457	327.00	5700
50.00	85568	142.00	10011	234.00	4580	328.00	2643
51.00	336128	143.00	6985	235.00	4734	329.00	503
52.00	17096	144.00	1957	236.00	3101	330.00	191
53.00	629	145.00	1568	237.00	4907	331.00	117
55.00	1401	146.00	5602	238.00	743	332.00	2215
56.00	11244	147.00	15916	239.00	2550	333.00	3101
57.00	26128	148.00	34800	240.00	2164	334.00	20032
58.00	1025	149.00	6657	241.00	3754	335.00	5121
59.00	333	150.00	1717	242.00	8198	336.00	556
60.00	261	151.00	4243	243.00	8319	339.00	568
61.00	4435	152.00	1644	244.00	123968	340.00	561
62.00	5726	153.00	10248	245.00	16808	341.00	4185
63.00	16512	154.00	7272	246.00	27032	342.00	1042
64.00	2247	155.00	17424	247.00	5217	345.00	125
65.00	7794	156.00	25088	248.00	1132	346.00	6274
66.00	446	157.00	4765	249.00	4291	347.00	1150
67.00	356	158.00	5826	250.00	1137	348.00	190
68.00	6472	159.00	4449	251.00	1164	350.00	257
69.00	414720	160.00	9929	252.00	1452	351.00	762
70.00	2008	161.00	14396	253.00	3139	352.00	9844
71.00	226	162.00	4128	255.00	664960	353.00	7118
72.00	137	163.00	976	256.00	96128	354.00	10441
73.00	3142	164.00	1582	257.00	7567	355.00	1914
74.00	42488	165.00	11609	258.00	40888	356.00	143
75.00	67136	166.00	9245	259.00	6578	357.00	135

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D\8270D_LLPAH_MSY.rsl\spectra.d

Injection Date: 25-Aug-2014 11:07:30

Spectrum: Tune Spec: Scans 418-420(5.22-5.23) Bgrd 413(5.20)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 363

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	22592	167.00	57080	260.00	949	358.00	85
77.00	460992	168.00	22704	261.00	1277	359.00	662
78.00	30536	169.00	4633	262.00	234	360.00	189
79.00	31952	170.00	2074	263.00	403	361.00	314
80.00	24784	171.00	2518	264.00	1078	362.00	63
81.00	35528	172.00	5796	265.00	15340	363.00	134
82.00	8648	173.00	6579	266.00	2591	364.00	232
83.00	7989	174.00	12951	267.00	295	365.00	47408
84.00	748	175.00	23472	268.00	99	366.00	6636
85.00	6324	176.00	6618	269.00	320	367.00	490
86.00	9391	177.00	11043	270.00	929	370.00	1113
87.00	4746	178.00	3856	271.00	1532	371.00	3002
88.00	1709	179.00	44304	272.00	2112	372.00	18312
89.00	851	180.00	29672	273.00	20416	373.00	4566
90.00	187	181.00	13683	274.00	54936	374.00	610
91.00	8412	182.00	2326	275.00	304256	377.00	491
92.00	8985	183.00	1126	276.00	39192	378.00	53
93.00	57144	184.00	3652	277.00	26416	383.00	5070
94.00	4014	185.00	20816	278.00	3888	384.00	1398
95.00	853	186.00	163072	279.00	888	385.00	435
96.00	2547	187.00	46280	280.00	194	389.00	117
97.00	1146	188.00	4753	281.00	160	390.00	2461
98.00	43896	189.00	10669	282.00	636	391.00	1877
99.00	34336	190.00	2045	283.00	2975	392.00	1430
100.00	3257	191.00	4948	284.00	2088	393.00	220
101.00	21000	192.00	13501	285.00	4754	395.00	64
102.00	1122	193.00	14994	286.00	828	397.00	216
103.00	7064	194.00	3213	288.00	294	401.00	1158
104.00	14185	195.00	2148	289.00	1185	402.00	8428
105.00	12724	196.00	32672	290.00	861	403.00	11721
106.00	4200	197.00	5818	291.00	641	404.00	3849
107.00	170176	198.00	1141760	292.00	1230	405.00	591
108.00	25568	199.00	75560	293.00	5928	410.00	378
109.00	4958	200.00	5669	294.00	1528	415.00	575

Report Date: 25-Aug-2014 16:31:48

Chrom Revision: 2.2 24-Jul-2014 14:43:32

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D\8270D_LLPAH_MSY.rsl\spectra.d

Injection Date: 25-Aug-2014 11:07:30

Spectrum: Tune Spec: Scans 418-420(5.22-5.23) Bgrd 413(5.20)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 363

m/z	Y	m/z	Y	m/z	Y	m/z	Y
110.00	307200	201.00	4381	295.00	2123	416.00	63
111.00	47240	202.00	461	296.00	92336	419.00	190
112.00	5496	203.00	8345	297.00	12502	420.00	216
113.00	1960	204.00	41304	298.00	870	421.00	10116
114.00	510	205.00	69264	299.00	145	422.00	9336
115.00	823	206.00	287040	300.00	55	423.00	75064
116.00	8914	207.00	37200	301.00	1113	424.00	14615
117.00	129816	208.00	9851	302.00	1872	425.00	1241
118.00	8699	209.00	2860	303.00	10854	430.00	51
119.00	1350	210.00	4507	304.00	2980	431.00	113
120.00	2174	211.00	10723	305.00	334	432.00	202
121.00	876	212.00	627	307.00	201	433.00	267
122.00	11555	213.00	894	308.00	1323	434.00	226
123.00	18160	214.00	381	309.00	777	435.00	431
124.00	7881	215.00	3325	310.00	1431	436.00	520
125.00	7237	216.00	6061	311.00	167	437.00	1374
126.00	2703	217.00	76112	312.00	347	438.00	1119
127.00	612672	218.00	9778	313.00	814	439.00	929
128.00	45048	219.00	1001	314.00	4471	441.00	209920
129.00	252672	221.00	49448	315.00	10061	442.00	1426432
130.00	20864	222.00	7987	316.00	5416	443.00	272640
131.00	3922	223.00	17608	317.00	1095	444.00	24904
132.00	2254	224.00	161920	318.00	73	445.00	1355
133.00	862	225.00	40672	319.00	162		

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2501.D
Injection Date: 25-Aug-2014 11:07:30 Instrument ID: CMSY
Lims ID: DFTPP
Client ID:
Operator ID: RM ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 2.0 ul Dil. Factor: 1.0000
Method: 8270D_LLPAH_MSY Limit Group: 8270D_LL_PAH

30 4,4'-DDT, Detector: MS SCAN

SW-846 Method

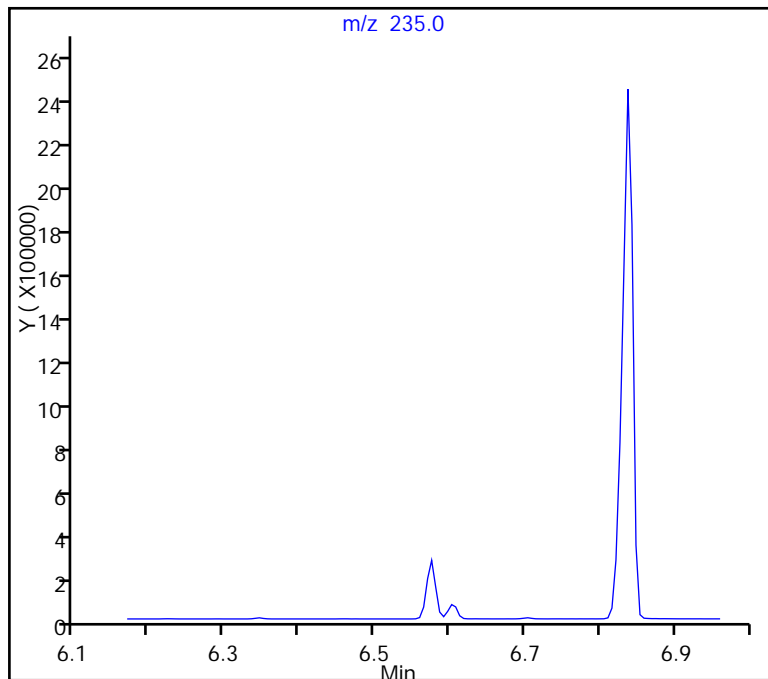
%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

30 4,4'-DDT, Area = 2334311

29 4,4'-DDD, Area = 240

28 4,4'-DDE, Area = 14503

%Breakdown: 0.63%, Max Limit: 20.00%
Passed



TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D
 Lims ID: DFTPP
 Client ID:
 Sample Type: DFTPP
 Inject. Date: 29-Aug-2014 09:21:30 ALS Bottle#: 1 Worklist Smp#: 2
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: DFTPP
 Misc. Info.: 680-0012334-002
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 29-Aug-2014 12:11:49 Calib Date: 28-Aug-2014 15:19:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140828-12334.b\1YH2808.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK031

First Level Reviewer: webbk

Date: 29-Aug-2014 12:11:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
27 DFTPP									
28 4,4'-DDE	246	6.255	6.255	0.000	83	762		NR	7
29 4,4'-DDD	235	6.570	6.570	0.000	93	5444		NR	7
30 4,4'-DDT	235	6.795	6.795	0.000	96	240366	NR	NR	7

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

7 - Failed Limit of Detection

Reagents:

SM-LLTUNE_00074

Amount Added: 1.00

Units: mL

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D

Injection Date: 29-Aug-2014 09:21:30

Instrument ID: CMSY

Lims ID: DFTPP

Client ID:

Operator ID: RM

ALS Bottle#: 1 Worklist Smp#: 2

Injection Vol: 2.0 ul

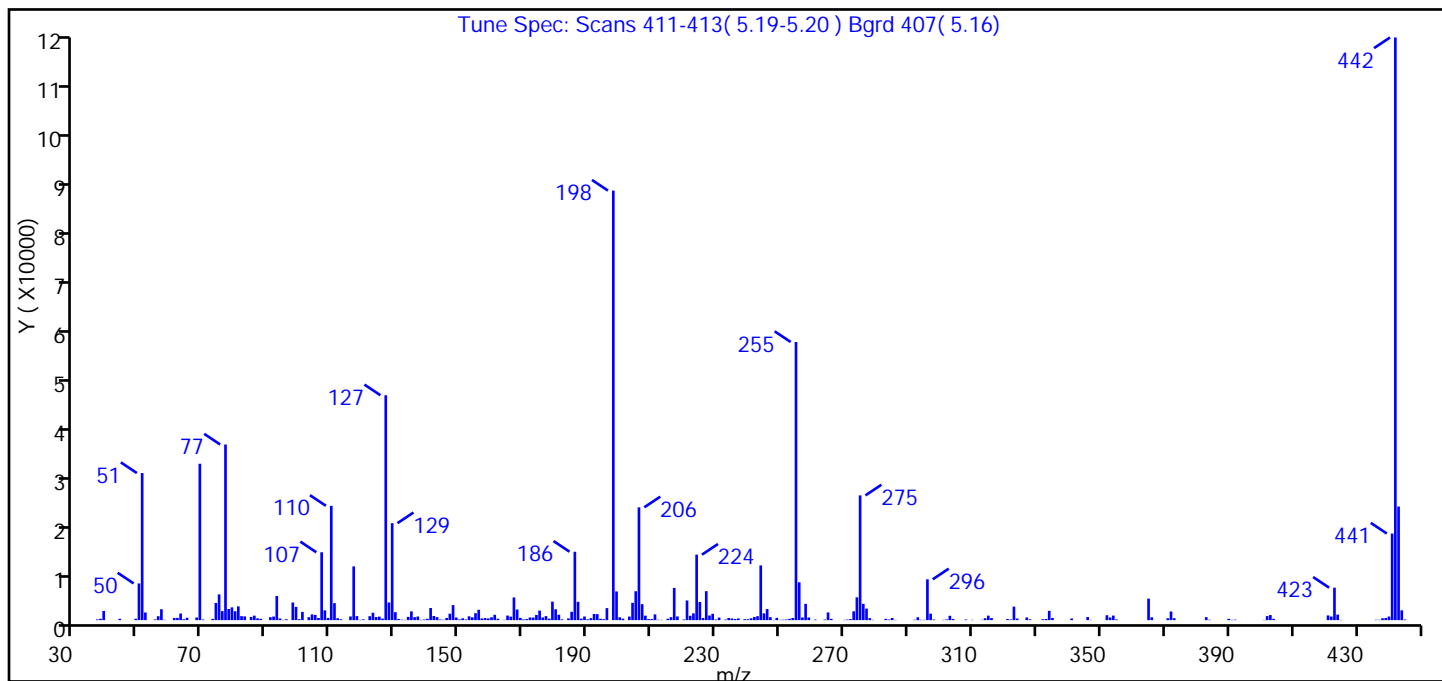
Dil. Factor: 1.0000

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Tune Method: DFTPP Method 525.2, BP 442

27 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
442	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 442	25.20
68	Less than 2.00% of mass 69	0.50 (1.70)
69	Present	26.80
70	Less than 2.00% of mass 69	0.10 (0.40)
127	10.00 - 80.00% of mass 442	38.60
197	Less than 2.00% of mass 198	0.00 (0.00)
198	Greater than 50.00% of mass 442	73.70
199	5.00 - 9.00% of mass 198	4.90 (6.70)
275	10.00 - 60.00% of mass 442	21.40
365	Greater than 1.00% of mass 442	3.70
441	Present, but less than mass 443	14.90 (76.30)
443	15.00 - 24.00% of mass 442	19.50

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D\8270D_LLPAH_MS.Y.rsl\spectra.d
Injection Date: 29-Aug-2014 09:21:30
Spectrum: Tune Spec: Scans 411-413(5.19-5.20) Bgrd 407(5.16)
Base Peak: 442.00
Minimum % Base Peak: 0
Number of Points: 272

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	156	129.00	19928	200.00	594	279.00	56
38.00	275	130.00	1640	201.00	309	283.00	267
39.00	1887	131.00	240	203.00	732	284.00	130
44.00	279	132.00	87	204.00	3561	285.00	446
49.00	289	133.00	56	205.00	5943	286.00	51
50.00	7543	134.00	677	206.00	23184	292.00	87
51.00	30224	135.00	1801	207.00	3285	293.00	591
52.00	1575	136.00	614	208.00	918	294.00	69
55.00	147	137.00	745	209.00	227	295.00	63
56.00	806	138.00	68	210.00	225	296.00	8388
57.00	2242	139.00	127	211.00	1189	297.00	1328
58.00	63	140.00	274	212.00	77	298.00	129
61.00	435	141.00	2500	213.00	54	301.00	64
62.00	466	142.00	855	215.00	289	302.00	144
63.00	1361	143.00	628	216.00	606	303.00	895
64.00	192	144.00	134	217.00	6624	304.00	249
65.00	484	145.00	70	218.00	762	308.00	139
68.00	546	146.00	447	220.00	138	310.00	56
69.00	32136	147.00	1326	221.00	4042	313.00	63
70.00	130	148.00	3093	222.00	897	314.00	390
73.00	265	149.00	543	223.00	1392	315.00	926
74.00	3534	150.00	160	224.00	13457	316.00	435
75.00	5293	151.00	377	225.00	3739	321.00	225
76.00	1853	152.00	138	226.00	435	322.00	135
77.00	36088	153.00	792	227.00	5960	323.00	2782
78.00	2284	154.00	582	228.00	953	324.00	325
79.00	2619	155.00	1433	229.00	1301	327.00	557
80.00	1833	156.00	2129	230.00	133	328.00	172
81.00	2829	157.00	358	231.00	520	332.00	196
82.00	824	158.00	420	233.00	123	333.00	233
83.00	770	159.00	357	234.00	442	334.00	1908
85.00	655	160.00	599	235.00	342	335.00	453
86.00	922	161.00	1100	236.00	230	341.00	341

Report Date: 29-Aug-2014 12:11:50

Chrom Revision: 2.2 24-Jul-2014 14:43:32

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D\8270D_LLPAH_MSY.rsl\spectra.d

Injection Date: 29-Aug-2014 09:21:30

Spectrum: Tune Spec: Scans 411-413(5.19-5.20) Bgrd 407(5.16)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 272

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	377	162.00	290	237.00	363	346.00	643
88.00	269	164.00	70	239.00	195	347.00	50
91.00	611	165.00	943	240.00	186	352.00	1004
92.00	739	166.00	726	241.00	388	353.00	555
93.00	4968	167.00	4661	242.00	640	354.00	935
94.00	341	168.00	2187	243.00	819	355.00	151
95.00	55	169.00	474	244.00	11247	365.00	4422
96.00	192	170.00	154	245.00	1393	366.00	586
98.00	3623	171.00	226	246.00	2279	371.00	394
99.00	2732	172.00	546	247.00	607	372.00	1776
100.00	205	173.00	533	248.00	52	373.00	399
101.00	1687	174.00	1064	249.00	464	383.00	616
103.00	606	175.00	1959	250.00	57	384.00	84
104.00	1181	176.00	555	251.00	90	390.00	266
105.00	1072	177.00	832	252.00	142	391.00	67
106.00	439	178.00	308	253.00	277	392.00	105
107.00	13943	179.00	3802	254.00	450	401.00	52
108.00	2012	180.00	2236	255.00	57152	402.00	832
109.00	457	181.00	1107	256.00	7775	403.00	1046
110.00	23488	182.00	166	257.00	555	404.00	284
111.00	3494	184.00	355	258.00	3356	421.00	970
112.00	397	185.00	1725	259.00	548	422.00	741
113.00	179	186.00	14058	261.00	120	423.00	6666
116.00	755	187.00	3775	264.00	120	424.00	1134
117.00	11043	188.00	308	265.00	1580	425.00	51
118.00	831	189.00	746	266.00	266	436.00	84
119.00	66	190.00	168	270.00	58	437.00	63
120.00	162	191.00	407	271.00	116	438.00	384
122.00	811	192.00	1267	272.00	204	439.00	443
123.00	1517	193.00	1237	273.00	1814	440.00	741
124.00	639	194.00	286	274.00	4682	441.00	17792
125.00	725	195.00	200	275.00	25632	442.00	119720
126.00	322	196.00	2474	276.00	3349	443.00	23328
127.00	46208	198.00	88256	277.00	2369	444.00	2015

Report Date: 29-Aug-2014 12:11:50

Chrom Revision: 2.2 24-Jul-2014 14:43:32

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D\8270D_LLPAH_MSY.rslt\spectra.d

Injection Date: 29-Aug-2014 09:21:30

Spectrum: Tune Spec: Scans 411-413(5.19-5.20) Bgrd 407(5.16)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 272

m/z	Y	m/z	Y	m/z	Y	m/z	Y
128.00	3625	199.00	5896	278.00	408	445.00	133

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140829-12365.b\1YH2902.D

Injection Date: 29-Aug-2014 09:21:30

Instrument ID: CMSY

Lims ID: DFTPP

Client ID:

Operator ID: RM

ALS Bottle#: 1 Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

30 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =

$$\left(\frac{\text{Area Breakdown Cpnds}}{\text{Total Area Breakdown Cpnds}} \right) * 100$$

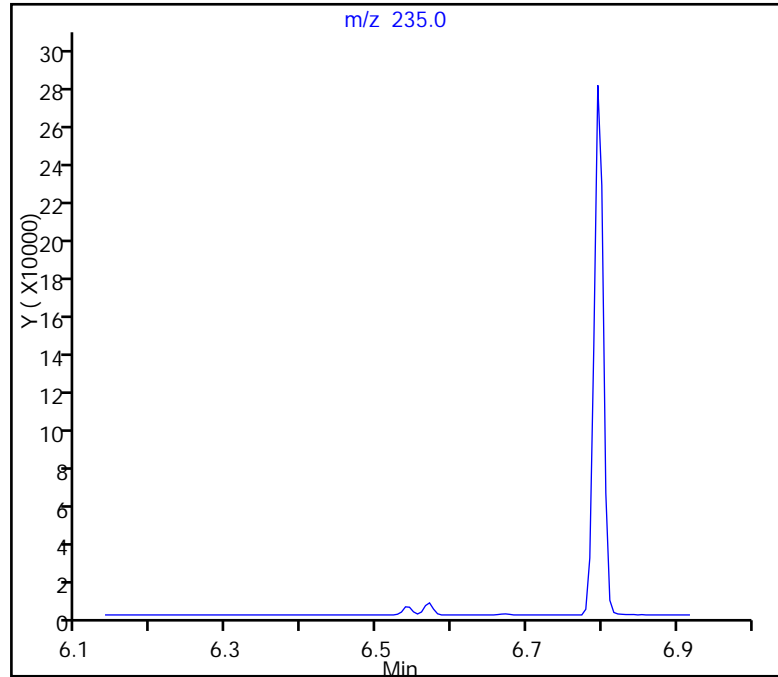
30 4,4'-DDT, Area = 240366

29 4,4'-DDD, Area = 5444

28 4,4'-DDE, Area = 762

%Breakdown: 2.52%, Max Limit: 20.00%

Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: _____	Lab Sample ID: <u>MB 680-345506/21-A</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2505.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: _____
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.04(g)</u>	Date Analyzed: <u>08/25/2014 13:20</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	6.7	U	6.7	3.3
208-96-8	Acenaphthylene	6.7	U	6.7	3.3
120-12-7	Anthracene	6.7	U	6.7	3.3
56-55-3	Benzo[a]anthracene	6.7	U	6.7	3.3
50-32-8	Benzo[a]pyrene	6.7	U	6.7	1.2
205-99-2	Benzo[b]fluoranthene	6.7	U	6.7	3.3
191-24-2	Benzo[g,h,i]perylene	6.7	U	6.7	3.3
207-08-9	Benzo[k]fluoranthene	6.7	U	6.7	2.0
218-01-9	Chrysene	6.7	U	6.7	3.3
53-70-3	Dibenz(a,h)anthracene	6.7	U	6.7	3.3
206-44-0	Fluoranthene	6.7	U	6.7	3.3
86-73-7	Fluorene	6.7	U	6.7	3.3
193-39-5	Indeno[1,2,3-cd]pyrene	6.7	U	6.7	3.3
90-12-0	1-Methylnaphthalene	6.7	U	6.7	3.1
91-57-6	2-Methylnaphthalene	6.7	U	6.7	3.3
91-20-3	Naphthalene	6.7	U	6.7	3.3
85-01-8	Phenanthrene	6.7	U	6.7	2.4
129-00-0	Pyrene	6.7	U	6.7	3.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	126		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2505.D
 Lims ID: MB 680-345506/21-A
 Client ID:
 Sample Type: MB
 Inject. Date: 25-Aug-2014 13:20:30 ALS Bottle#: 5 Worklist Smp#: 5
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: MB 680-345506/21-A
 Misc. Info.: 680-0012210-005
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 25-Aug-2014 16:32:02 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK027

First Level Reviewer: webbk

Date: 25-Aug-2014 14:39:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.238	4.249	-0.011	99	292750	2.00	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	92	154993	2.00	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	213435	2.00	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	99	156498	2.00	2.00	
* 5 Perylene-d12	264	12.251	12.245	0.006	98	115624	2.00	2.00	
\$ 6 o-Terphenyl	230	8.191	8.191	0.000	89	143547	2.00	2.51	
10 1,1'-Biphenyl	154	5.458	5.463	-0.005	0	483		NC	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 25-Aug-2014 16:32:10

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2505.D

Injection Date: 25-Aug-2014 13:20:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: MB 680-345506/21-A

Worklist Smp#: 5

Client ID:

Injection Vol: 2.0 ul

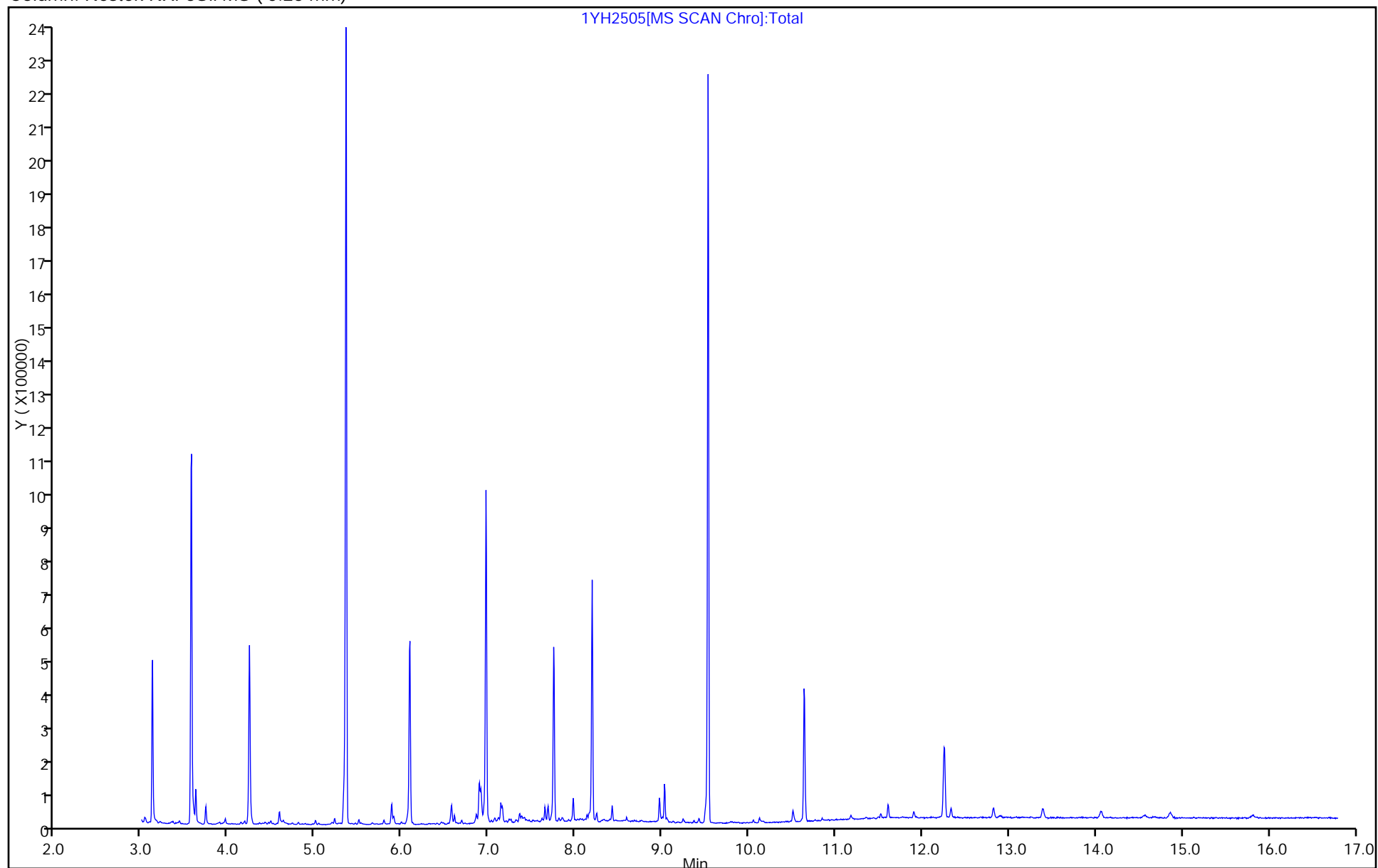
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: _____	Lab Sample ID: <u>LCS 680-345506/22-A</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2506.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: _____
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.01(g)</u>	Date Analyzed: <u>08/25/2014 13:42</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	301		6.7	3.3
208-96-8	Acenaphthylene	286		6.7	3.3
120-12-7	Anthracene	310		6.7	3.3
56-55-3	Benzo[a]anthracene	335		6.7	3.3
50-32-8	Benzo[a]pyrene	344		6.7	1.2
205-99-2	Benzo[b]fluoranthene	354		6.7	3.3
191-24-2	Benzo[g,h,i]perylene	341		6.7	3.3
207-08-9	Benzo[k]fluoranthene	307		6.7	2.0
218-01-9	Chrysene	288		6.7	3.3
53-70-3	Dibenz(a,h)anthracene	330		6.7	3.3
206-44-0	Fluoranthene	321		6.7	3.3
86-73-7	Fluorene	290		6.7	3.3
193-39-5	Indeno[1,2,3-cd]pyrene	328		6.7	3.3
90-12-0	1-Methylnaphthalene	278		6.7	3.1
91-57-6	2-Methylnaphthalene	286		6.7	3.3
91-20-3	Naphthalene	281		6.7	3.3
85-01-8	Phenanthrene	321		6.7	2.4
129-00-0	Pyrene	305		6.7	3.3

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	116		36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2506.D
 Lims ID: LCS 680-345506/22-A
 Client ID:
 Sample Type: LCS
 Inject. Date: 25-Aug-2014 13:42:30 ALS Bottle#: 6 Worklist Smp#: 6
 Injection Vol: 2.0 ul Dil. Factor: 1.0000
 Sample Info: LCS 680-345506/22-A
 Misc. Info.: 680-0012210-006
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 25-Aug-2014 16:31:49 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK027

First Level Reviewer: webbk

Date: 25-Aug-2014 14:40:30

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.238	4.249	-0.011	89	294837	2.00	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	90	156108	2.00	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	218850	2.00	2.00	
* 4 Chrysene-d12	240	10.635	10.636	-0.001	80	171504	2.00	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	97	131892	2.00	2.00	
\$ 6 o-Terphenyl	230	8.186	8.191	-0.005	88	145089	2.00	2.32	
7 Naphthalene	128	4.260	4.271	-0.011	99	1147900	10.0	8.42	
8 2-Methylnaphthalene	142	4.966	4.971	-0.005	82	756370	10.0	8.58	
9 1-Methylnaphthalene	142	5.067	5.073	-0.006	88	708674	10.0	8.35	
10 1,1'-Biphenyl	154	5.458	5.463	-0.005	0	922655	NC	NC	
11 Acenaphthylene	152	5.934	5.934	0.000	85	1086903	10.0	8.58	
12 Acenaphthene	153	6.126	6.127	-0.001	93	717985	10.0	9.03	
14 Fluorene	166	6.699	6.699	0.000	83	744188	10.0	8.69	
15 Phenanthrene	178	7.774	7.774	0.000	98	1014792	10.0	9.64	
16 Anthracene	178	7.833	7.833	0.000	99	964826	10.0	9.29	
17 Fluoranthene	202	9.106	9.106	0.000	98	988133	10.0	9.64	
18 Pyrene	202	9.352	9.352	0.000	97	1019866	10.0	9.15	
19 Benzo[a]anthracene	228	10.625	10.625	0.000	98	863178	10.0	10.1	
20 Chrysene	228	10.662	10.662	0.000	96	718541	10.0	8.63	
21 Benzo[b]fluoranthene	252	11.775	11.775	0.000	96	766971	10.0	10.6	
22 Benzo[k]fluoranthene	252	11.807	11.807	0.000	99	651851	10.0	9.21	
23 Benzo[a]pyrene	252	12.176	12.176	0.000	96	605612	10.0	10.3	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	99	588240	10.0	9.84	
25 Dibenzo(a,h)anthracene	278	13.882	13.887	-0.005	91	474744	10.0	9.89	
26 Benzo[g,h,i]perylene	276	14.342	14.347	-0.005	94	511797	10.0	10.2	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2506.D

Injection Date: 25-Aug-2014 13:42:30

Instrument ID: CMSY

Lims ID: LCS 680-345506/22-A

Client ID:

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: 8270D_LLPAH_MSY

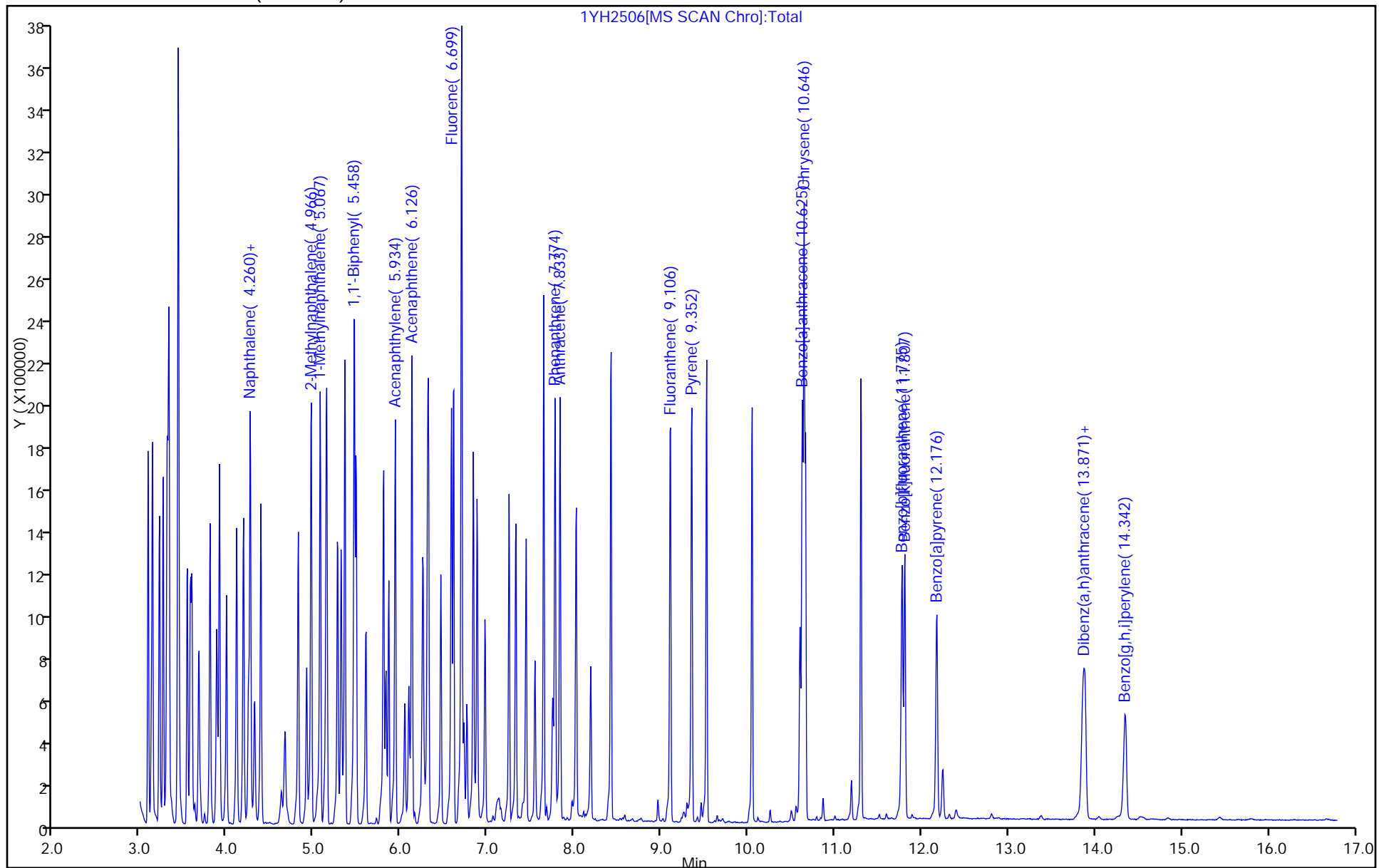
Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)

Operator ID: RM

Worklist Smp#: 6

ALS Bottle#: 6



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004A-CS4" MS</u>	Lab Sample ID: <u>680-104534-1 MS</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2507.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.02(g)</u>	Date Analyzed: <u>08/25/2014 14:05</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	345		83	41
208-96-8	Acenaphthylene	340		83	41
120-12-7	Anthracene	372		83	41
56-55-3	Benzo[a]anthracene	715		83	41
50-32-8	Benzo[a]pyrene	676		83	15
205-99-2	Benzo[b]fluoranthene	859		83	41
191-24-2	Benzo[g,h,i]perylene	658		83	41
207-08-9	Benzo[k]fluoranthene	501		83	25
218-01-9	Chrysene	711		83	41
53-70-3	Dibenz(a,h)anthracene	482		83	41
206-44-0	Fluoranthene	1020		83	41
86-73-7	Fluorene	343		83	41
193-39-5	Indeno[1,2,3-cd]pyrene	632		83	41
90-12-0	1-Methylnaphthalene	379		83	38
91-57-6	2-Methylnaphthalene	380		83	41
91-20-3	Naphthalene	355		83	41
85-01-8	Phenanthrene	709		83	30
129-00-0	Pyrene	813		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2507.D
 Lims ID: 680-104534-A-1-B MS
 Client ID: CV0004A-CS4"
 Sample Type: MS
 Inject. Date: 25-Aug-2014 14:05:30 ALS Bottle#: 7 Worklist Smp#: 7
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-1-B MS DL=10
 Misc. Info.: 680-0012210-007
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MS.Y.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 08:37:56 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK037

First Level Reviewer: webbk

Date: 25-Aug-2014 14:41:52

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	99	307791	0.2000	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	90	162551	0.2000	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	238550	0.2000	2.00	
* 4 Chrysene-d12	240	10.630	10.636	-0.006	99	186609	0.2000	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	98	152679	0.2000	2.00	
7 Naphthalene	128	4.271	4.271	0.000	99	122322	1.00	0.8595	
8 2-Methylnaphthalene	142	4.966	4.971	-0.005	83	84600	1.00	0.9190	
9 1-Methylnaphthalene	142	5.068	5.073	-0.005	89	81111	1.00	0.9160	
10 1,1'-Biphenyl	154	5.458	5.463	-0.005	0	86780	NC	NC	
11 Acenaphthylene	152	5.929	5.934	-0.005	98	108284	1.00	0.8212	
12 Acenaphthene	153	6.121	6.127	-0.006	86	69142	1.00	0.8353	
14 Fluorene	166	6.694	6.699	-0.005	83	73961	1.00	0.8298	
15 Phenanthrene	178	7.774	7.774	0.000	97	196886	1.00	1.72	
16 Anthracene	178	7.827	7.833	-0.006	98	101805	1.00	0.8998	
17 Fluoranthene	202	9.100	9.106	-0.006	98	275029	1.00	2.46	
18 Pyrene	202	9.346	9.352	-0.006	98	238567	1.00	1.97	
19 Benzo[a]anthracene	228	10.619	10.625	-0.006	94	161605	1.00	1.73	
20 Chrysene	228	10.657	10.662	-0.005	95	155780	1.00	1.72	
21 Benzo[b]fluoranthene	252	11.769	11.775	-0.006	98	173801	1.00	2.08	
22 Benzo[k]fluoranthene	252	11.802	11.807	-0.005	48	99317	1.00	1.21	M
23 Benzo[a]pyrene	252	12.171	12.176	-0.005	96	111070	1.00	1.63	
24 Indeno[1,2,3-cd]pyrene	276	13.855	13.855	0.000	97	99413	1.00	1.53	
25 Dibenz(a,h)anthracene	278	13.882	13.887	-0.005	93	64747	1.00	1.17	
26 Benzo[g,h,i]perylene	276	14.342	14.347	-0.005	91	92214	1.00	1.59	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2507.D

Injection Date: 25-Aug-2014 14:05:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-1-B MS

Worklist Smp#: 7

Client ID: CV0004A-CS4"

Injection Vol: 2.0 ul

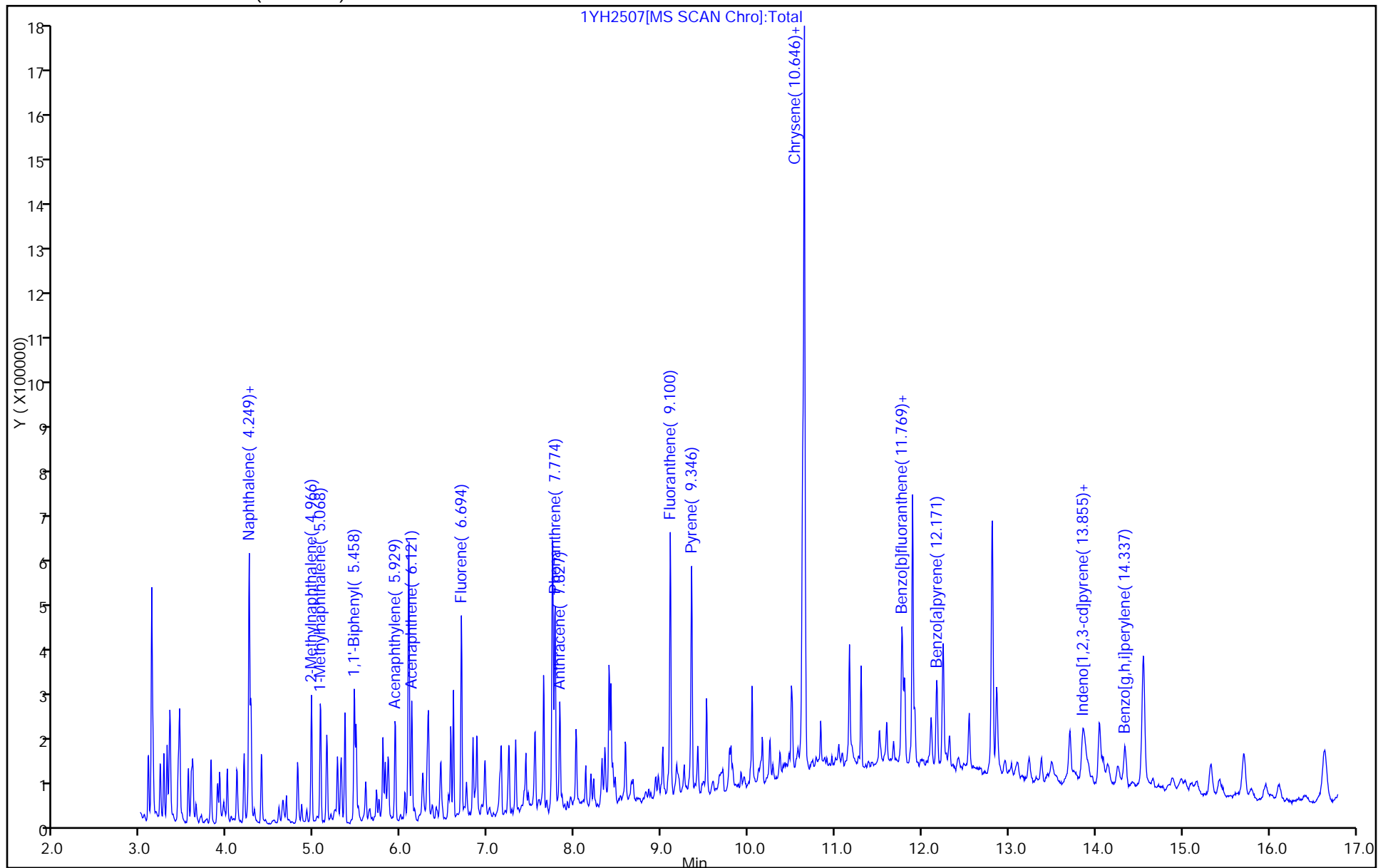
Dil. Factor: 10.0000

ALS Bottle#: 7

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2507.D

Injection Date: 25-Aug-2014 14:05:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-B MS

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#:

7

Worklist Smp#: 7

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

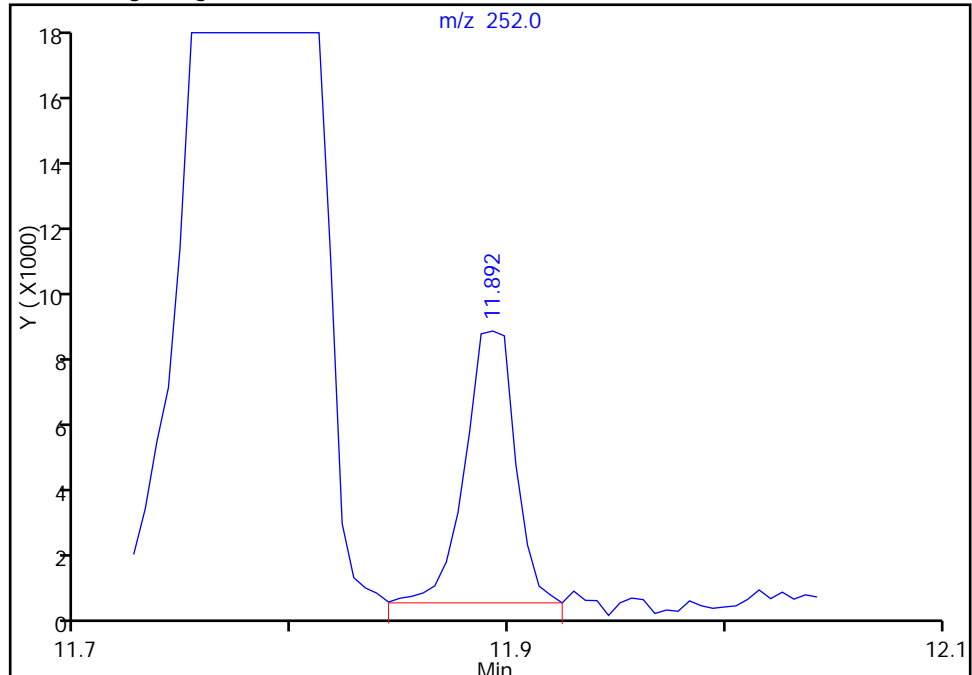
Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

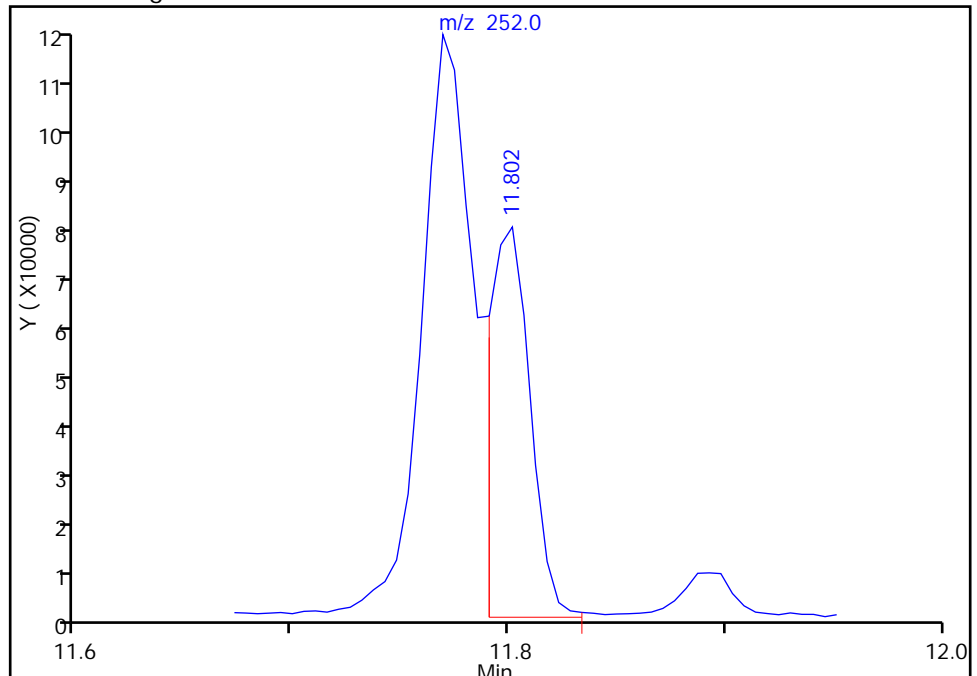
RT: 11.89
Response: 13087
Amount: 0.159655

Processing Integration Results



RT: 11.80
Response: 99317
Amount: 1.211620

Manual Integration Results



Reviewer: webbk, 25-Aug-2014 14:41:52

Audit Action: Manually Integrated

Audit Reason: Split Peak

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Savannah</u>	Job No.: <u>680-104534-1</u>
SDG No.: <u>680-104534-01</u>	
Client Sample ID: <u>CV0004A-CS4" MSD</u>	Lab Sample ID: <u>680-104534-1 MSD</u>
Matrix: <u>Solid</u>	Lab File ID: <u>1YH2508.D</u>
Analysis Method: <u>8270D_LL_PAH</u>	Date Collected: <u>08/18/2014 15:15</u>
Extract. Method: <u>3546</u>	Date Extracted: <u>08/22/2014 22:13</u>
Sample wt/vol: <u>30.05(g)</u>	Date Analyzed: <u>08/25/2014 14:27</u>
Con. Extract Vol.: <u>1(mL)</u>	Dilution Factor: <u>10</u>
Injection Volume: <u>2(uL)</u>	Level: (low/med) <u>Low</u>
% Moisture: <u>19.4</u>	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>345693</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	376		83	41
208-96-8	Acenaphthylene	367		83	41
120-12-7	Anthracene	416		83	41
56-55-3	Benzo[a]anthracene	841		83	41
50-32-8	Benzo[a]pyrene	793		83	15
205-99-2	Benzo[b]fluoranthene	1060		83	41
191-24-2	Benzo[g,h,i]perylene	676		83	41
207-08-9	Benzo[k]fluoranthene	698		83	25
218-01-9	Chrysene	809		83	41
53-70-3	Dibenz(a,h)anthracene	477		83	41
206-44-0	Fluoranthene	1210		83	41
86-73-7	Fluorene	357		83	41
193-39-5	Indeno[1,2,3-cd]pyrene	598		83	41
90-12-0	1-Methylnaphthalene	405		83	38
91-57-6	2-Methylnaphthalene	401		83	41
91-20-3	Naphthalene	375		83	41
85-01-8	Phenanthrene	829		83	30
129-00-0	Pyrene	1050		83	41

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

TestAmerica Savannah
Target Compound Quantitation Report

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2508.D
 Lims ID: 680-104534-A-1-C MSD
 Client ID: CV0004A-CS4"
 Sample Type: MSD
 Inject. Date: 25-Aug-2014 14:27:30 ALS Bottle#: 8 Worklist Smp#: 8
 Injection Vol: 2.0 ul Dil. Factor: 10.0000
 Sample Info: 680-104534-A-1-C MSD DL=10
 Misc. Info.: 680-0012210-008
 Operator ID: RM Instrument ID: CMSY
 Method: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\8270D_LLPAH_MSY.m
 Limit Group: 8270D_LL_PAH
 Last Update: 26-Aug-2014 10:39:21 Calib Date: 20-Aug-2014 15:43:30
 Integrator: RTE ID Type: RT Order ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\SAVCHROM\ChromData\CMSY\20140820-12087.b\2YH2008.D
 Column 1 : Restek RXi-5Sil MS (0.25 mm) Det: MS SCAN
 Process Host: XAWRK025

First Level Reviewer: webbk

Date: 25-Aug-2014 16:49:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 1 Naphthalene-d8	136	4.249	4.249	0.000	99	316849	0.2000	2.00	
* 2 Acenaphthene-d10	164	6.089	6.089	0.000	90	165927	0.2000	2.00	
* 3 Phenanthrene-d10	188	7.747	7.747	0.000	98	239572	0.2000	2.00	
* 4 Chrysene-d12	240	10.630	10.636	-0.006	99	165646	0.2000	2.00	
* 5 Perylene-d12	264	12.245	12.245	0.000	97	118964	0.2000	2.00	
7 Naphthalene	128	4.271	4.271	0.000	99	133080	1.00	0.9084	
8 2-Methylnaphthalene	142	4.966	4.971	-0.005	81	92098	1.00	0.9718	
9 1-Methylnaphthalene	142	5.073	5.073	0.000	89	89267	1.00	0.9793	
10 1,1'-Biphenyl	154	5.458	5.463	-0.005	0	96254	NC	NC	
11 Acenaphthylene	152	5.934	5.934	0.000	97	119658	1.00	0.8890	
12 Acenaphthene	153	6.121	6.127	-0.006	86	76826	1.00	0.9092	
14 Fluorene	166	6.694	6.699	-0.005	87	78582	1.00	0.8637	
15 Phenanthrene	178	7.774	7.774	0.000	98	231249	1.00	2.01	
16 Anthracene	178	7.827	7.833	-0.006	98	114350	1.00	1.01	
17 Fluoranthene	202	9.100	9.106	-0.006	98	327845	1.00	2.92	
18 Pyrene	202	9.346	9.352	-0.006	97	272706	1.00	2.53	
19 Benzo[a]anthracene	228	10.619	10.625	-0.006	98	168913	1.00	2.04	
20 Chrysene	228	10.657	10.662	-0.005	95	157548	1.00	1.96	
21 Benzo[b]fluoranthene	252	11.769	11.775	-0.006	98	166682	1.00	2.56	
22 Benzo[k]fluoranthene	252	11.796	11.807	-0.011	48	107994	1.00	1.69	M
23 Benzo[a]pyrene	252	12.171	12.176	-0.005	97	101683	1.00	1.92	
24 Indeno[1,2,3-cd]pyrene	276	13.850	13.855	-0.005	97	83630	1.00	1.45	
25 Dibenz(a,h)anthracene	278	13.877	13.887	-0.010	88	49939	1.00	1.15	
26 Benzo[g,h,i]perylene	276	14.337	14.347	-0.010	90	73878	1.00	1.64	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

SM-LLISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 26-Aug-2014 10:53:30

Chrom Revision: 2.2 24-Jul-2014 14:43:32

TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2508.D

Injection Date: 25-Aug-2014 14:27:30

Instrument ID: CMSY

Operator ID: RM

Lims ID: 680-104534-A-1-C MSD

Worklist Smp#: 8

Client ID: CV0004A-CS4"

Injection Vol: 2.0 ul

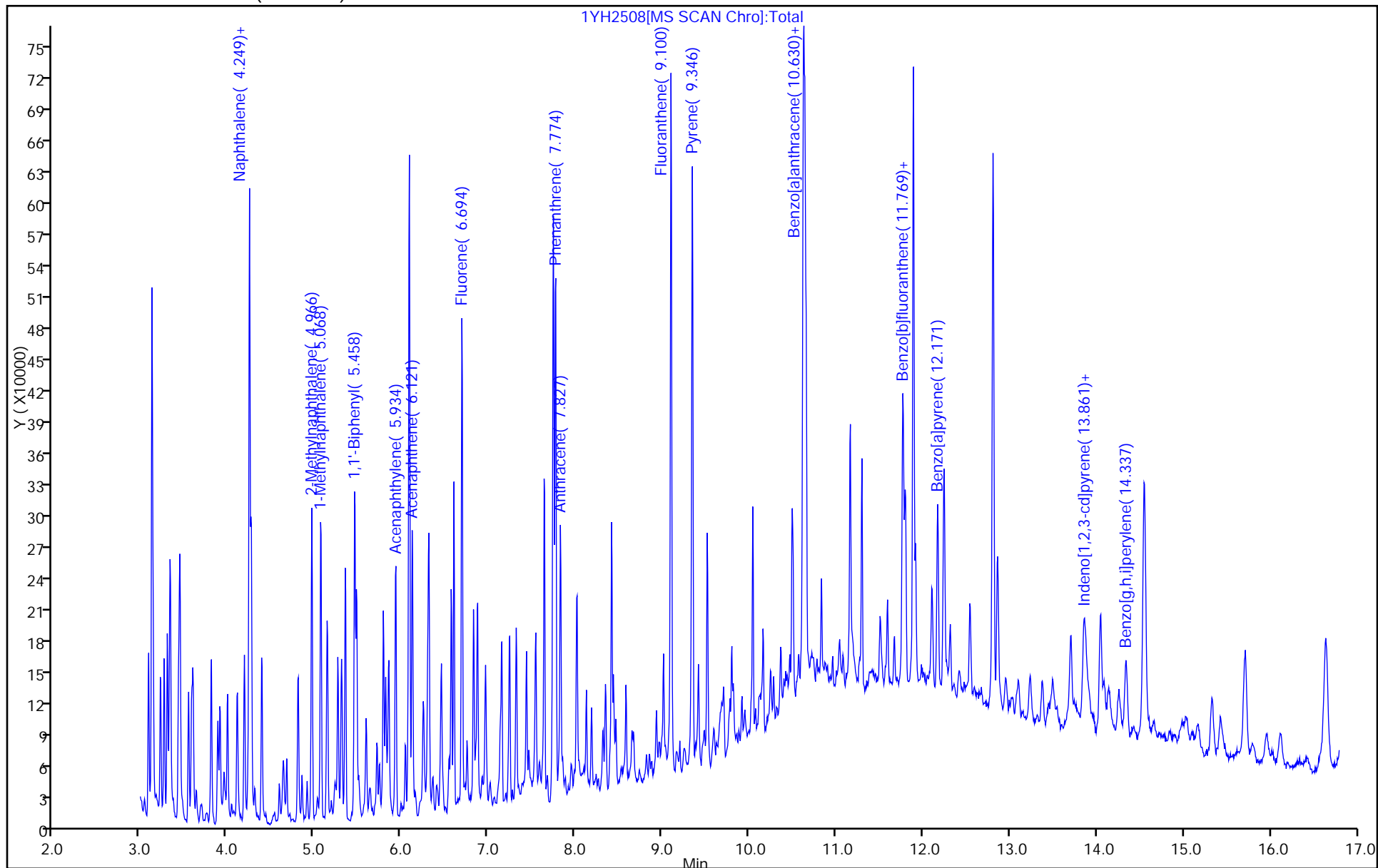
Dil. Factor: 10.0000

ALS Bottle#: 8

Method: 8270D_LLPAH_MSY

Limit Group: 8270D_LL_PAH

Column: Restek RXi-5Sil MS (0.25 mm)



TestAmerica Savannah

Data File: \\SAVCHROM\ChromData\CMSY\20140825-12210.b\1YH2508.D

Injection Date: 25-Aug-2014 14:27:30

Instrument ID: CMSY

Lims ID: 680-104534-A-1-C MSD

Client ID: CV0004A-CS4"

Operator ID: RM

ALS Bottle#:

8

Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 10.0000

Method: 8270D_LLPAH_MS

Limit Group: 8270D_LL_PAH

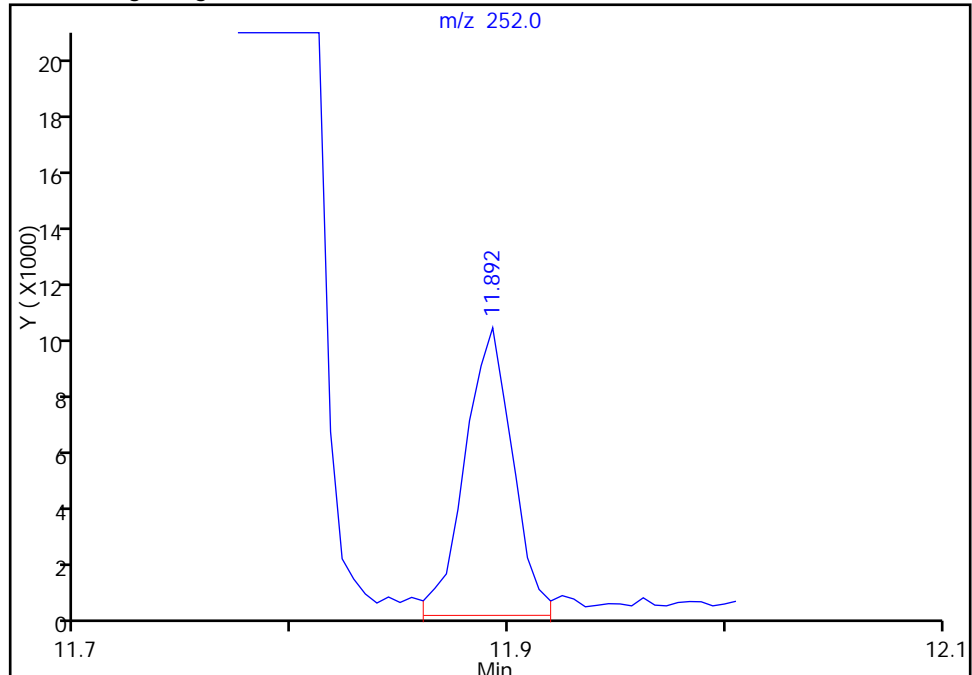
Column: Restek RXi-5Sil MS (0.25 mm)

Detector: MS SCAN

22 Benzo[k]fluoranthene, CAS: 207-08-9

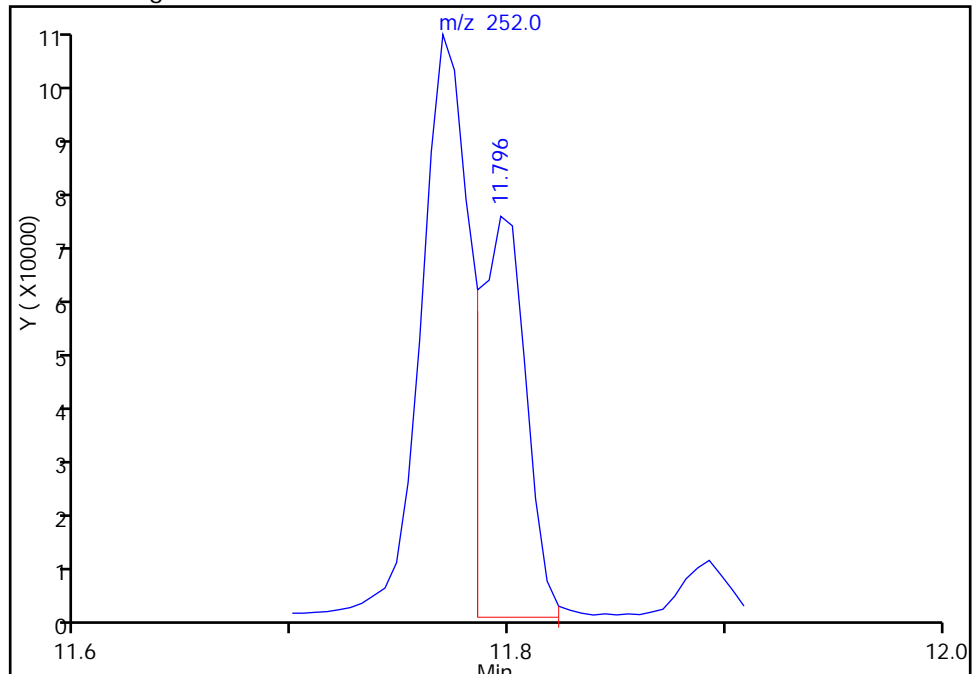
RT: 11.89
Response: 15624
Amount: 0.244624

Processing Integration Results



RT: 11.80
Response: 107994
Amount: 1.690854

Manual Integration Results



Reviewer: webbk, 25-Aug-2014 16:31:47

Audit Action: Manually Integrated

Audit Reason: Split Peak

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica SavannahJob No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSKStart Date: 08/22/2014 11:38Analysis Batch Number: 345423End Date: 08/22/2014 17:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-345423/11		08/22/2014 11:38	1	1KH2211.D	RXi- 5Sil MS 0.25 (mm)
ICIS 680-345423/2		08/22/2014 11:57	1	1KH2202.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/3		08/22/2014 12:20	1	1KH2203.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/4		08/22/2014 12:43	1	1KH2204.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/5		08/22/2014 13:06	1	1KH2205.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/6		08/22/2014 13:30	1	1KH2206.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/7		08/22/2014 13:53	1	1KH2207.D	RXi- 5Sil MS 0.25 (mm)
IC 680-345423/8		08/22/2014 14:16	1	1KH2208.D	RXi- 5Sil MS 0.25 (mm)
ICV 680-345423/9		08/22/2014 14:40	1	1KH2209.D	RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 15:03	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 15:26	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 15:50	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 16:14	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 16:37	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/22/2014 17:25	1		RXi- 5Sil MS 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica SavannahJob No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSKStart Date: 08/26/2014 13:44Analysis Batch Number: 345964End Date: 08/27/2014 01:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-345964/1		08/26/2014 13:44	1	1KH2601.D	RXi- 5Sil MS 0.25 (mm)
CCVIS 680-345964/2		08/26/2014 13:59	1	1KH2602.D	RXi- 5Sil MS 0.25 (mm)
RL 680-345964/3		08/26/2014 14:21	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 14:45	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 15:31	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:04	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:04	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:27	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:27	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:50	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 16:50	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 17:13	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 17:13	1		RXi- 5Sil MS 0.25 (mm)
MDLV 680-342660/12-A		08/26/2014 17:36	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 17:36	1		RXi- 5Sil MS 0.25 (mm)
MDLV 680-342660/13-A		08/26/2014 17:59	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 17:59	1		RXi- 5Sil MS 0.25 (mm)
MDLV 680-342660/14-A		08/26/2014 18:23	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 18:23	1		RXi- 5Sil MS 0.25 (mm)
MDLV 680-342660/15-A		08/26/2014 18:46	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 18:46	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 19:09	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 19:33	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 19:56	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 20:20	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 20:43	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 21:06	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 21:30	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 21:53	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 22:16	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/26/2014 22:39	1		RXi- 5Sil MS 0.25 (mm)
680-104534-8	HP0085A-CS18"	08/26/2014 23:03	1	1KH2624.D	RXi- 5Sil MS 0.25 (mm)
680-104534-9	HP0085A-CS24"	08/26/2014 23:26	1	1KH2625.D	RXi- 5Sil MS 0.25 (mm)
680-104534-12	HP0085B-CS18"	08/26/2014 23:49	1	1KH2626.D	RXi- 5Sil MS 0.25 (mm)
680-104534-14	FM0350A-CS4"	08/27/2014 00:12	10	1KH2627.D	RXi- 5Sil MS 0.25 (mm)
680-104534-15	FM0350B-CS4"	08/27/2014 00:35	10	1KH2628.D	RXi- 5Sil MS 0.25 (mm)
680-104534-16	FM0350C-CS4"	08/27/2014 00:58	10	1KH2629.D	RXi- 5Sil MS 0.25 (mm)
680-104534-17	FM0350D-CS4"	08/27/2014 01:21	10	1KH2630.D	RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/27/2014 01:45	10		RXi- 5Sil MS 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica SavannahJob No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSYStart Date: 08/25/2014 11:07Analysis Batch Number: 345693End Date: 08/25/2014 21:10

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTTP 680-345693/1		08/25/2014 11:07	1	1YH2501.D	RXi- 5Sil MS 0.25 (mm)
CCVIS 680-345693/2		08/25/2014 11:27	1	1YH2502.D	RXi- 5Sil MS 0.25 (mm)
RL 680-345693/3		08/25/2014 11:49	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 12:11	1		RXi- 5Sil MS 0.25 (mm)
MB 680-345506/21-A		08/25/2014 13:20	1	1YH2505.D	RXi- 5Sil MS 0.25 (mm)
LCS 680-345506/22-A		08/25/2014 13:42	1	1YH2506.D	RXi- 5Sil MS 0.25 (mm)
680-104534-1 MS	CV0004A-CS4" MS	08/25/2014 14:05	10	1YH2507.D	RXi- 5Sil MS 0.25 (mm)
680-104534-1 MSD	CV0004A-CS4" MSD	08/25/2014 14:27	10	1YH2508.D	RXi- 5Sil MS 0.25 (mm)
680-104534-1	CV0004A-CS4"	08/25/2014 14:49	10	1YH2509.D	RXi- 5Sil MS 0.25 (mm)
680-104534-2	CV0004B-CS4"	08/25/2014 15:12	10	1YH2510.D	RXi- 5Sil MS 0.25 (mm)
680-104534-3	CV0163A-CS4"	08/25/2014 15:34	10	1YH2511.D	RXi- 5Sil MS 0.25 (mm)
680-104534-4	CV0163A-CS4"	08/25/2014 15:56	10	1YH2512.D	RXi- 5Sil MS 0.25 (mm)
680-104534-5	HP0085A-CS6"	08/25/2014 16:19	10	1YH2513.D	RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 16:41	1		RXi- 5Sil MS 0.25 (mm)
680-104534-7	HP0085A-CSD12"	08/25/2014 17:04	10	1YH2515.D	RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 17:26	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 17:49	1		RXi- 5Sil MS 0.25 (mm)
680-104534-10	HP0085B-CS6"	08/25/2014 18:11	10	1YH2518.D	RXi- 5Sil MS 0.25 (mm)
680-104534-11	HP0085B-CS12"	08/25/2014 18:34	1	1YH2519.D	RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 18:56	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 19:18	1		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 19:41	10		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 20:03	10		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 20:26	10		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 20:48	10		RXi- 5Sil MS 0.25 (mm)
ZZZZZ		08/25/2014 21:10	10		RXi- 5Sil MS 0.25 (mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica SavannahJob No.: 680-104534-1SDG No.: 680-104534-01Instrument ID: CMSYStart Date: 08/29/2014 09:21Analysis Batch Number: 346540End Date: 08/29/2014 19:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 680-346540/2		08/29/2014 09:21	1	1YH2902.D	RXi- 5Si1 MS 0.25 (mm)
CCVIS 680-346540/21		08/29/2014 10:37	1	1YH2921.D	RXi- 5Si1 MS 0.25 (mm)
RL 680-346540/4		08/29/2014 11:02	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 11:24	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 11:46	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 12:31	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 12:54	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 13:16	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 13:39	1		RXi- 5Si1 MS 0.25 (mm)
680-104534-18	FM0350A-CSD4"	08/29/2014 16:07	10	1YH2917.D	RXi- 5Si1 MS 0.25 (mm)
680-104534-6	HP0085A-CS12"	08/29/2014 16:30	1	1YH2918.D	RXi- 5Si1 MS 0.25 (mm)
680-104534-13	HP0085B-CS24"	08/29/2014 16:53	1	1YH2919.D	RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 17:15	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 17:38	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 18:01	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 18:23	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 18:46	1		RXi- 5Si1 MS 0.25 (mm)
ZZZZZ		08/29/2014 19:09	1		RXi- 5Si1 MS 0.25 (mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Batch Number: 345506

Batch Start Date: 08/22/14 22:13

Batch Analyst: Kicklighter, Jasmine M

Batch Method: 3546

Batch End Date: 08/22/14 22:43

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EX8270SPKL1 00012	LLBNawksUR 00077	AnalysisComment	
680-104534-A-1	CV0004A-CS4"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-2	CV0004B-CS4"	3546, 8270D LL PAH	T	30.05 g	1 mL		1 mL		
680-104534-A-3	CV0163A-CS4"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-4	CV0163A-CS4"	3546, 8270D LL PAH	T	30.04 g	1 mL		1 mL		
680-104534-A-5	HP0085A-CS6"	3546, 8270D LL PAH	T	30.01 g	1 mL		1 mL		
680-104534-A-6	HP0085A-CS12"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-7	HP0085A-CSD12"	3546, 8270D LL PAH	T	30.01 g	1 mL		1 mL		
680-104534-A-8	HP0085A-CS18"	3546, 8270D LL PAH	T	30.01 g	1 mL		1 mL		
680-104534-A-9	HP0085A-CS24"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-10	HP0085B-CS6"	3546, 8270D LL PAH	T	30.01 g	1 mL		1 mL		
680-104534-A-11	HP0085B-CS12"	3546, 8270D LL PAH	T	30.01 g	1 mL		1 mL		
680-104534-A-12	HP0085B-CS18"	3546, 8270D LL PAH	T	30.04 g	1 mL		1 mL		
680-104534-A-13	HP0085B-CS24"	3546, 8270D LL PAH	T	30.05 g	1 mL		1 mL		
680-104534-A-14	FM0350A-CS4"	3546, 8270D LL PAH	T	30.03 g	1 mL		1 mL		
680-104534-A-15	FM0350B-CS4"	3546, 8270D LL PAH	T	30.04 g	1 mL		1 mL		
680-104534-A-16	FM0350C-CS4"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-17	FM0350D-CS4"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
680-104534-A-18	FM0350A-CSD4"	3546, 8270D LL PAH	T	30.02 g	1 mL		1 mL		
MB 680-345506/21		3546, 8270D LL PAH		30.04 g	1 mL		1 mL		
LCS 680-345506/22		3546, 8270D LL PAH		30.01 g	1 mL	100 uL	1 mL	LLBNA	
680-104534-A-1 MS	CV0004A-CS4"	3546, 8270D LL PAH	T	30.02 g	1 mL	100 uL	1 mL	LLBNA	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D_LL_PAH

Page 1 of 2

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Batch Number: 345506 Batch Start Date: 08/22/14 22:13 Batch Analyst: Kicklighter, Jasmine MBatch Method: 3546 Batch End Date: 08/22/14 22:43

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	EX8270SPKL1 00012	LLBNAwkSUR 00077	AnalysisComment	
680-104534-A-1 MSD	CV0004A-CS4"	3546, 8270D_LL_PAH	T	30.05 g	1 mL	100 uL	1 mL	LLBNA	

Batch Notes	
Balance ID	30
Batch Comment	8270LL/8270LL-AP9 BOX LL172
Concentration End Time	902
Concentration Start Time	732
Person's name who did the concentration	JMK
Exchange Solvent Lot #	3723240
Exchange Solvent Name	MeCl2
Filter Paper Lot Number	09-795G
Final Concentrator Volume	1 mL
MeCl2 Lot #	3664449
MeCl2/Acetone Lot #	3664449
Microwave Oven ID	1
Microwave Start Time	2213
Microwave Stop Time	2243
Na2SO4 Lot Number	3726609
Ottawa Sand Lot #	3720722
Person's name who did the prep	JMK
Person who performed Spike	JMK
Person who witnessed spiking	DF/JS

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D_LL_PAH

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METALS

COVER PAGE
METALS

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG No.: 680-104534-01
Project: 35th Avenue Superfund Site

Client Sample ID	Lab Sample ID
CV0004A-CS4"	680-104534-1
CV0004B-CS4"	680-104534-2
CV0163A-CS4"	680-104534-3
CV0163A-CS4"	680-104534-4
HP0085A-CS6"	680-104534-5
HP0085A-CS12"	680-104534-6
HP0085A-CSD12"	680-104534-7
HP0085A-CS18"	680-104534-8
HP0085A-CS24"	680-104534-9
HP0085B-CS6"	680-104534-10
HP0085B-CS12"	680-104534-11
HP0085B-CS18"	680-104534-12
HP0085B-CS24"	680-104534-13
FM0350A-CS4"	680-104534-14
FM0350B-CS4"	680-104534-15
FM0350C-CS4"	680-104534-16
FM0350D-CS4"	680-104534-17
FM0350A-CSD4"	680-104534-18

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0004A-CS4" Lab Sample ID: 680-104534-1
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/18/2014 15:15
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 80.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7100	11	4.2	mg/Kg			1	6020A
7440-38-2	Arsenic	9.9	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	18000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	140	0.22	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	CV0004B-CS4"	Lab Sample ID:	680-104534-2
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/18/2014 15:45
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	81.0		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12000	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	19	0.29	0.11	mg/Kg			1	6020A
7439-89-6	Iron	43000	29	11	mg/Kg		B	1	6020A
7439-92-1	Lead	120	0.23	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	CV0163A-CS4"	Lab Sample ID:	680-104534-3
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/18/2014 16:20
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	80.6		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	20	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	28000	26	11	mg/Kg		B	1	6020A
7439-92-1	Lead	150	0.21	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: CV0163A-CS4" Lab Sample ID: 680-104534-4

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/18/2014 16:40

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 81.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	12	4.5	mg/Kg			1	6020A
7440-38-2	Arsenic	33	0.29	0.12	mg/Kg			1	6020A
7439-89-6	Iron	53000	29	12	mg/Kg		B	1	6020A
7439-92-1	Lead	300	0.23	0.12	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CS6" Lab Sample ID: 680-104534-5
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 09:10
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 85.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	12000	10	3.9	mg/Kg			1	6020A
7440-38-2	Arsenic	36	0.25	0.10	mg/Kg			1	6020A
7439-89-6	Iron	86000	100	41	mg/Kg		B	4	6020A
7439-92-1	Lead	110	0.20	0.10	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CS12" Lab Sample ID: 680-104534-6
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 09:20
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 88.0

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	35	0.27	0.11	mg/Kg			1	6020A
7439-89-6	Iron	84000	110	42	mg/Kg		B	4	6020A
7439-92-1	Lead	53	0.21	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CSD12" Lab Sample ID: 680-104534-7

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/19/2014 09:25

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 87.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	11	4.4	mg/Kg			1	6020A
7440-38-2	Arsenic	39	0.29	0.11	mg/Kg			1	6020A
7439-89-6	Iron	110000	110	46	mg/Kg		B	4	6020A
7439-92-1	Lead	48	0.23	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CS18" Lab Sample ID: 680-104534-8

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/19/2014 09:30

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 87.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	16000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	42	0.27	0.11	mg/Kg			1	6020A
7439-89-6	Iron	110000	110	43	mg/Kg		B	4	6020A
7439-92-1	Lead	48	0.21	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085A-CS24" Lab Sample ID: 680-104534-9
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 09:40
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 85.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	18000	11	4.2	mg/Kg			1	6020A
7440-38-2	Arsenic	56	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	120000	110	44	mg/Kg		B	4	6020A
7439-92-1	Lead	130	0.22	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085B-CS6"	Lab Sample ID:	680-104534-10
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 11:40
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	87.4		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	29	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	68000	110	42	mg/Kg		B	4	6020A
7439-92-1	Lead	160	0.21	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085B-CS12"

Lab Sample ID: 680-104534-11

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid

Date Sampled: 08/19/2014 11:45

Reporting Basis: DRY

Date Received: 08/22/2014 09:26

% Solids: 90.7

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	13000	11	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	30	0.26	0.11	mg/Kg			1	6020A
7439-89-6	Iron	69000	110	42	mg/Kg		B	4	6020A
7439-92-1	Lead	46	0.21	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: HP0085B-CS18" Lab Sample ID: 680-104534-12

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/19/2014 12:00

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 90.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	14000	9.7	3.7	mg/Kg			1	6020A
7440-38-2	Arsenic	63	0.24	0.097	mg/Kg			1	6020A
7439-89-6	Iron	170000	240	97	mg/Kg		B	10	6020A
7439-92-1	Lead	56	0.19	0.097	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID:	HP0085B-CS24"	Lab Sample ID:	680-104534-13
Lab Name:	TestAmerica Savannah	Job No.:	680-104534-1
SDG ID.:	680-104534-01		
Matrix:	Solid	Date Sampled:	08/19/2014 12:15
Reporting Basis:	DRY	Date Received:	08/22/2014 09:26
% Solids:	89.4		

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	15000	10	3.8	mg/Kg			1	6020A
7440-38-2	Arsenic	50	0.25	0.10	mg/Kg			1	6020A
7439-89-6	Iron	140000	250	100	mg/Kg		B	10	6020A
7439-92-1	Lead	81	0.20	0.10	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350A-CS4" Lab Sample ID: 680-104534-14
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 14:45
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 78.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	9100	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	19	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	26000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	210	0.23	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350B-CS4" Lab Sample ID: 680-104534-15
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 15:15
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 89.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	11000	10	4.0	mg/Kg			1	6020A
7440-38-2	Arsenic	23	0.26	0.10	mg/Kg			1	6020A
7439-89-6	Iron	38000	26	10	mg/Kg		B	1	6020A
7439-92-1	Lead	140	0.21	0.10	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350C-CS4" Lab Sample ID: 680-104534-16
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 15:00
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 79.2

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7400	11	4.3	mg/Kg			1	6020A
7440-38-2	Arsenic	11	0.28	0.11	mg/Kg			1	6020A
7439-89-6	Iron	19000	28	11	mg/Kg		B	1	6020A
7439-92-1	Lead	300	0.23	0.11	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350D-CS4" Lab Sample ID: 680-104534-17
Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG ID.: 680-104534-01
Matrix: Solid Date Sampled: 08/19/2014 15:30
Reporting Basis: DRY Date Received: 08/22/2014 09:26
% Solids: 78.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7800	12	4.4	mg/Kg			1	6020A
7440-38-2	Arsenic	9.7	0.29	0.12	mg/Kg			1	6020A
7439-89-6	Iron	15000	29	12	mg/Kg		B	1	6020A
7439-92-1	Lead	180	0.23	0.12	mg/Kg			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: FM0350A-CSD4" Lab Sample ID: 680-104534-18

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG ID.: 680-104534-01

Matrix: Solid Date Sampled: 08/19/2014 14:50

Reporting Basis: DRY Date Received: 08/22/2014 09:26

% Solids: 78.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7100	12	4.6	mg/Kg			1	6020A
7440-38-2	Arsenic	14	0.30	0.12	mg/Kg			1	6020A
7439-89-6	Iron	20000	30	12	mg/Kg		B	1	6020A
7439-92-1	Lead	210	0.24	0.12	mg/Kg			1	6020A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00204 Concentration Units: ug/L

CCV Source: MS CCV cpi_00183

Analyte	ICV 680-345970/9 08/24/2014 11:28				CCV 680-345970/12 08/24/2014 11:50				CCV 680-345970/21 08/24/2014 12:57			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	425		400	106	524		500	105	524		500	105
Arsenic	41.7		40.0	104	50.6		50.0	101	50.9		50.0	102
Iron	4180		4000	105	5230		5000	105	5260		5000	105
Lead	40.8		40.0	102	50.4		50.0	101	49.9		50.0	100
<i>Copper</i>	41.1		40.0	103	49.8		50.0	100	49.9		50.0	100
<i>Thallium</i>	8.05		8.00	101	10.0		10.0	100	9.94		10.0	99
<i>Zinc</i>	41.4		40.0	103	50.2		50.0	100	49.2		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00204 Concentration Units: ug/L

CCV Source: MS CCV cpi_00183

Analyte	CCV 680-345970/75 08/25/2014 02:16				CCV 680-345970/83 08/25/2014 03:15				CCV 680-345970/107 08/25/2014 14:49			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	527		500	105	521		500	104	523		500	105
Arsenic	50.4		50.0	101	50.1		50.0	100	49.5		50.0	99
Iron	5300		5000	106	5410		5000	108	5360		5000	107
Lead	49.5		50.0	99	49.0		50.0	98	47.8		50.0	96
<i>Copper</i>	49.5		50.0	99	49.6		50.0	99	48.8		50.0	98
<i>Thallium</i>	9.80		10.0	98	9.82		10.0	98	9.59		10.0	96
<i>Zinc</i>	49.5		50.0	99	49.2		50.0	98	49.7		50.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00204 Concentration Units: ug/L

CCV Source: MS CCV cpi_00183

Analyte	CCV 680-345970/114 08/25/2014 15:41				CCV 680-345970/178 08/25/2014 23:33				CCV 680-345970/190 08/26/2014 01:01			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	511		500	102	519		500	104	520		500	104
Arsenic	49.9		50.0	100	49.9		50.0	100	49.3		50.0	99
Iron	5380		5000	108	5360		5000	107	5460		5000	109
Lead	48.1		50.0	96	47.5		50.0	95	48.3		50.0	97
<i>Copper</i>	49.0		50.0	98	48.5		50.0	97	47.6		50.0	95
<i>Thallium</i>	9.58		10.0	96	9.47		10.0	95	9.58		10.0	96
<i>Zinc</i>	48.6		50.0	97	48.8		50.0	98	48.6		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00204 Concentration Units: ug/L

CCV Source: MS CCV cpi_00183

Analyte	CCV 680-345970/202 08/26/2014 02:29				CCV 680-345970/210 08/26/2014 03:28				CCV 680-345970/23 08/26/2014 07:53			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	489		500	98	526		500	105	534		500	107
Arsenic	49.4		50.0	99	50.2		50.0	100	50.7		50.0	101
Iron	5050		5000	101	5410		5000	108	5450		5000	109
Lead	47.0		50.0	94	46.5		50.0	93	47.9		50.0	96
<i>Copper</i>	47.5		50.0	95	48.4		50.0	97	48.4		50.0	97
<i>Thallium</i>	9.34		10.0	93	9.28		10.0	93	9.55		10.0	95
<i>Zinc</i>	48.9		50.0	98	48.3		50.0	97	49.1		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00204 Concentration Units: ug/L

CCV Source: MS CCV cpi_00183

Analyte	CCV 680-345970/31 08/26/2014 08:54				CCV 680-345970/67 08/26/2014 13:19				CCV 680-345970/73 08/26/2014 14:03			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	531		500	106	530		500	106	529		500	106
Arsenic	50.8		50.0	102	51.0		50.0	102	50.4		50.0	101
Iron	5500		5000	110	5410		5000	108	5400		5000	108
Lead	48.0		50.0	96	47.1		50.0	94	46.9		50.0	94
<i>Copper</i>	48.8		50.0	98	49.0		50.0	98	49.0		50.0	98
<i>Thallium</i>	9.56		10.0	96	9.39		10.0	94	9.31		10.0	93
<i>Zinc</i>	48.9		50.0	98	48.4		50.0	97	48.3		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00205 Concentration Units: ug/L

CCV Source: MS CCV cpi_00184

Analyte	ICV 680-346224/9 08/24/2014 11:28				CCV 680-346224/12 08/24/2014 11:50				CCV 680-346224/22 08/24/2014 12:57			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	4180		4000	105	5230		5000	105	5260		5000	105
<i>Aluminum</i>	425		400	106	524		500	105	524		500	105
<i>Arsenic</i>	41.7		40.0	104	50.6		50.0	101	50.9		50.0	102
<i>Copper</i>	41.1		40.0	103	49.8		50.0	100	49.9		50.0	100
<i>Lead</i>	40.8		40.0	102	50.4		50.0	101	49.9		50.0	100
<i>Thallium</i>	8.05		8.00	101	10.0		10.0	100	9.94		10.0	99
<i>Zinc</i>	41.4		40.0	103	50.2		50.0	100	49.2		50.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00205 Concentration Units: ug/L

CCV Source: MS CCV cpi_00184

Analyte	CCV 680-346224/17 08/26/2014 07:53				CCV 680-346224/31 08/26/2014 08:54				CCV 680-346224/33 08/26/2014 14:03			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	5450		5000	109	5500		5000	110	5400		5000	108
<i>Aluminum</i>	534		500	107	531		500	106	529		500	106
<i>Arsenic</i>	50.7		50.0	101	50.8		50.0	102	50.4		50.0	101
<i>Copper</i>	48.4		50.0	97	48.8		50.0	98	49.0		50.0	98
<i>Lead</i>	47.9		50.0	96	48.0		50.0	96	46.9		50.0	94
<i>Thallium</i>	9.55		10.0	95	9.56		10.0	96	9.31		10.0	93
<i>Zinc</i>	49.1		50.0	98	48.9		50.0	98	48.3		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00205 Concentration Units: ug/L

CCV Source: MS CCV cpi_00184

Analyte	CCV 680-346224/41 08/26/2014 15:02				CCV 680-346224/85 08/26/2014 21:48				CCV 680-346224/92 08/26/2014 22:40			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	5460		5000	109	5460		5000	109	5390		5000	108
<i>Aluminum</i>	529		500	106	532		500	106	532		500	106
<i>Arsenic</i>	50.3		50.0	101	51.1		50.0	102	50.7		50.0	101
<i>Copper</i>	48.3		50.0	97	48.9		50.0	98	49.2		50.0	98
<i>Lead</i>	47.7		50.0	95	46.6		50.0	93	45.9		50.0	92
<i>Thallium</i>	9.52		10.0	95	9.32		10.0	93	9.16		10.0	92
<i>Zinc</i>	48.3		50.0	97	47.8		50.0	96	48.6		50.0	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00205 Concentration Units: ug/L

CCV Source: MS CCV cpi_00184

Analyte	CCV 680-346224/119 08/27/2014 10:33				CCV 680-346224/126 08/27/2014 11:25				CCV 680-346224/137 08/27/2014 12:46			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	5150		5000	103	5390		5000	108	5400		5000	108
<i>Aluminum</i>	523		500	105	531		500	106	533		500	107
<i>Arsenic</i>	48.2		50.0	96	50.3		50.0	101	49.4		50.0	99
<i>Copper</i>	48.1		50.0	96	51.0		50.0	102	49.9		50.0	100
<i>Lead</i>	44.9		50.0	90	46.1		50.0	92	46.2		50.0	92
<i>Thallium</i>	9.02		10.0	90	9.23		10.0	92	9.17		10.0	92
<i>Zinc</i>	44.4		50.0	89	45.8		50.0	92	45.9		50.0	92

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICV Source: MS ICVwk_00205 Concentration Units: ug/L

CCV Source: MS CCV cpi_00184

Analyte	CCV 680-346224/148 08/27/2014 14:07				CCV 680-346224/154 08/27/2014 14:54							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Iron	5390		5000	108	5380		5000	108				
<i>Aluminum</i>	533		500	107	536		500	107				
<i>Arsenic</i>	49.0		50.0	98	49.1		50.0	98				
<i>Copper</i>	49.6		50.0	99	49.1		50.0	98				
<i>Lead</i>	46.3		50.0	93	46.5		50.0	93				
<i>Thallium</i>	9.22		10.0	92	9.29		10.0	93				
<i>Zinc</i>	45.4		50.0	91	45.6		50.0	91				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Method: 6020A Instrument ID: ICPMSA
 Lab Sample ID: CRI 680-346224/11 Concentration Units: ug/L
 CRQL Check Standard Source: MS_STD1_RL_00075

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	10.0	11.4	J	114	70-130
Arsenic	0.500	0.514		103	70-130
Iron	20.0	23.1	J	115	70-130
Lead	0.300	0.298	J	99	70-130

Lab Sample ID: CRI 680-345970/72 Concentration Units: ug/L
 CRQL Check Standard Source: MS_STD1_RL_00074

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	10.0	10.9	J	109	70-130
Arsenic	0.500	0.511		102	70-130
Iron	20.0	23.3	J	116	70-130
Lead	0.300	0.252	J	84	70-130

Lab Sample ID: CRI 680-346224/153 Concentration Units: ug/L
 CRQL Check Standard Source: MS_STD1_RL_00075

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	10.0	11.4	J	114	70-130
Arsenic	0.500	0.486	J	97	70-130
Iron	20.0	23.6	J	118	70-130
Lead	0.300	0.260	J	87	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	ICB 680-345970/10 08/24/2014 11:36		CCB 680-345970/13 08/24/2014 11:58		CCB 680-345970/22 08/24/2014 13:04		CCB 680-345970/76 08/25/2014 02:23	
		Found	C	Found	C	Found	C	Found	C
Aluminum	20	20	U	20	U	20	U	20	U
Arsenic	0.50	0.50	U	0.50	U	0.50	U	0.50	U
Iron	50	50	U	50	U	50	U	50	U
Lead	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-345970/84 08/25/2014 03:23		CCB 680-345970/108 08/25/2014 14:57		CCB 680-345970/115 08/25/2014 15:49		CCB 680-345970/179 08/25/2014 23:41	
		Found	C	Found	C	Found	C	Found	C
Aluminum	20	20	U	20	U	20	U	20	U
Arsenic	0.50	0.50	U	0.50	U	0.50	U	0.50	U
Iron	50	50	U	50	U	50	U	50	U
Lead	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-345970/191 08/26/2014 01:08		CCB 680-345970/203 08/26/2014 02:37		CCB 680-345970/211 08/26/2014 03:35		CCB 680-345970/24 08/26/2014 08:00	
		Found	C	Found	C	Found	C	Found	C
Aluminum	20	20	U	20	U	20	U	20	U
Arsenic	0.50	0.50	U	0.50	U	0.50	U	0.50	U
Iron	50	50	U	50	U	50	U	50	U
Lead	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-345970/32 08/26/2014 09:01		CCB 680-345970/68 08/26/2014 13:26		CCB 680-345970/74 08/26/2014 14:11			
		Found	C	Found	C	Found	C	Found	C
Aluminum	20	20	U	20	U	20	U		
Arsenic	0.50	0.50	U	0.50	U	0.50	U		
Iron	50	50	U	50	U	50	U		
Lead	0.40	0.40	U	0.40	U	0.40	U		
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U		
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U		
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U		

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	ICB 680-346224/10 08/24/2014 11:36		CCB 680-346224/13 08/24/2014 11:58		CCB 680-346224/23 08/24/2014 13:04		CCB 680-346224/24 08/26/2014 08:00	
		Found	C	Found	C	Found	C	Found	C
Iron	50	50	U	50	U	50	U	50	U
<i>Aluminum</i>	20	20	U	20	U	20	U	20	U
<i>Arsenic</i>	0.50	0.50	U	0.50	U	0.50	U	0.50	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Lead</i>	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-346224/32 08/26/2014 09:01		CCB 680-346224/34 08/26/2014 14:11		CCB 680-346224/42 08/26/2014 15:10		CCB 680-346224/86 08/26/2014 21:56	
		Found	C	Found	C	Found	C	Found	C
Iron	50	50	U	50	U	50	U	50	U
<i>Aluminum</i>	20	20	U	20	U	20	U	20	U
<i>Arsenic</i>	0.50	0.50	U	0.50	U	0.50	U	0.50	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Lead</i>	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-346224/93 08/26/2014 22:48		CCB 680-346224/120 08/27/2014 10:40		CCB 680-346224/127 08/27/2014 11:32		CCB 680-346224/138 08/27/2014 12:53	
		Found	C	Found	C	Found	C	Found	C
Iron	50	50	U	50	U	50	U	50	U
<i>Aluminum</i>	20	20	U	20	U	20	U	20	U
<i>Arsenic</i>	0.50	0.50	U	0.50	U	0.50	U	0.50	U
<i>Copper</i>	1.0	1.0	U	1.0	U	1.0	U	1.0	U
<i>Lead</i>	0.40	0.40	U	0.40	U	0.40	U	0.40	U
<i>Thallium</i>	0.20	0.20	U	0.20	U	0.20	U	0.20	U
<i>Zinc</i>	4.0	4.0	U	4.0	U	4.0	U	4.0	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Concentration Units: ug/L

Analyte	RL	CCB 680-346224/149 08/27/2014 14:15		CCB 680-346224/155 08/27/2014 15:01					
		Found	C	Found	C	Found	C	Found	C
Iron	50	50	U	50	U				
<i>Aluminum</i>	20	20	U	20	U				
<i>Arsenic</i>	0.50	0.50	U	0.50	U				
<i>Copper</i>	1.0	1.0	U	1.0	U				
<i>Lead</i>	0.40	0.40	U	0.40	U				
<i>Thallium</i>	0.20	0.20	U	0.20	U				
<i>Zinc</i>	4.0	4.0	U	4.0	U				

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Concentration Units: mg/Kg Lab Sample ID: MB 680-345543/1-A
Instrument Code: ICPMSA Batch No.: 345970

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	9.4	U		6020A
7440-38-2	Arsenic	0.24	U		6020A
7439-89-6	Iron	156			6020A
7439-92-1	Lead	0.19	U		6020A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
Lab Sample ID: ICSA 680-345970/14 Instrument ID: ICPMSA
Lab File ID: 017ICSA.D ICS Source: MS_ICSA_wk_00066
Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	100000	98580	99
Arsenic		0.123	
Iron	100000	97160	97
Lead		0.158	
<i>Antimony</i>		<i>0.0375</i>	
<i>Barium</i>		<i>0.0989</i>	
<i>Beryllium</i>		<i>0.0119</i>	
<i>Boron</i>		<i>1.73</i>	
<i>Cadmium</i>		<i>0.642</i>	
<i>Calcium</i>	<i>100000</i>	<i>102600</i>	<i>103</i>
<i>Chromium</i>		<i>1.31</i>	
<i>Cobalt</i>		<i>0.0947</i>	
<i>Copper</i>		<i>0.562</i>	
<i>Magnesium</i>	<i>100000</i>	<i>98560</i>	<i>99</i>
<i>Manganese</i>		<i>0.413</i>	
<i>Mercury</i>		<i>0.0068</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2094</i>	<i>105</i>
<i>Nickel</i>		<i>0.204</i>	
<i>Potassium</i>	<i>100000</i>	<i>100600</i>	<i>101</i>
<i>Selenium</i>		<i>0.0760</i>	
<i>Silver</i>		<i>0.0189</i>	
<i>Sodium</i>	<i>100000</i>	<i>99600</i>	<i>100</i>
<i>Strontium</i>		<i>0.630</i>	
<i>Thallium</i>		<i>-0.0033</i>	
<i>Tin</i>		<i>0.0877</i>	
<i>Titanium</i>	<i>2000</i>	<i>2016</i>	<i>101</i>
<i>Vanadium</i>		<i>0.0551</i>	
<i>Zinc</i>		<i>2.07</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-346224/14 Instrument ID: ICPMSA
 Lab File ID: 017ICSA.D ICS Source: MS_ICSA_wk_00067
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	100000	97160	97
<i>Aluminum</i>	<i>100000</i>	<i>98580</i>	<i>99</i>
<i>Antimony</i>		<i>0.0375</i>	
<i>Arsenic</i>		<i>0.123</i>	
<i>Barium</i>		<i>0.0989</i>	
<i>Beryllium</i>		<i>0.0119</i>	
<i>Boron</i>		<i>1.73</i>	
<i>Calcium</i>	<i>100000</i>	<i>102600</i>	<i>103</i>
<i>Chromium</i>		<i>1.31</i>	
<i>Cobalt</i>		<i>0.0947</i>	
<i>Copper</i>		<i>0.562</i>	
<i>Lead</i>		<i>0.158</i>	
<i>Magnesium</i>	<i>100000</i>	<i>98560</i>	<i>99</i>
<i>Manganese</i>		<i>0.413</i>	
<i>Mercury</i>		<i>0.0068</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2094</i>	<i>105</i>
<i>Nickel</i>		<i>0.204</i>	
<i>Potassium</i>	<i>100000</i>	<i>100600</i>	<i>101</i>
<i>Selenium</i>		<i>0.0760</i>	
<i>Silver</i>		<i>0.0189</i>	
<i>Sodium</i>	<i>100000</i>	<i>99600</i>	<i>100</i>
<i>Strontium</i>		<i>0.630</i>	
<i>Thallium</i>		<i>-0.0033</i>	
<i>Tin</i>		<i>0.0877</i>	
<i>Titanium</i>	<i>2000</i>	<i>2016</i>	<i>101</i>
<i>Vanadium</i>		<i>0.0551</i>	
<i>Zinc</i>		<i>2.07</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-345970/15 Instrument ID: ICPMSA
 Lab File ID: 018ICSB.D ICS Source: MS_ICSABwk_00065
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	100000	97940	98
Arsenic	20.0	21.1	106
Iron	100000	97760	98
Lead		0.190	
<i>Antimony</i>		<i>0.0336</i>	
<i>Barium</i>		<i>0.0948</i>	
<i>Beryllium</i>		<i>0.0062</i>	
<i>Boron</i>		<i>1.11</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>19.8</i>	<i>99</i>
<i>Calcium</i>	<i>100000</i>	<i>102800</i>	<i>103</i>
<i>Chromium</i>	<i>20.0</i>	<i>22.2</i>	<i>111</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.9</i>	<i>105</i>
<i>Copper</i>	<i>20.0</i>	<i>19.2</i>	<i>96</i>
<i>Magnesium</i>	<i>100000</i>	<i>98500</i>	<i>99</i>
<i>Manganese</i>	<i>20.0</i>	<i>22.0</i>	<i>110</i>
<i>Mercury</i>		<i>-0.0020</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2064</i>	<i>103</i>
<i>Nickel</i>	<i>20.0</i>	<i>20.4</i>	<i>102</i>
<i>Potassium</i>	<i>100000</i>	<i>99800</i>	<i>100</i>
<i>Selenium</i>		<i>0.0476</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.2</i>	<i>91</i>
<i>Sodium</i>	<i>100000</i>	<i>99560</i>	<i>100</i>
<i>Strontium</i>		<i>0.622</i>	
<i>Thallium</i>		<i>-0.0031</i>	
<i>Tin</i>		<i>0.0967</i>	
<i>Titanium</i>	<i>2000</i>	<i>2027</i>	<i>101</i>
<i>Vanadium</i>		<i>0.0363</i>	
<i>Zinc</i>	<i>20.0</i>	<i>21.5</i>	<i>107</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-346224/15 Instrument ID: ICPMSA
 Lab File ID: 018ICSB.D ICS Source: MS_ICSABwk_00066
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	100000	97760	98
<i>Aluminum</i>	<i>100000</i>	<i>97940</i>	<i>98</i>
<i>Antimony</i>		<i>0.0336</i>	
<i>Arsenic</i>	<i>20.0</i>	<i>21.1</i>	<i>106</i>
<i>Barium</i>		<i>0.0948</i>	
<i>Beryllium</i>		<i>0.0062</i>	
<i>Boron</i>		<i>1.11</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>19.8</i>	<i>99</i>
<i>Calcium</i>	<i>100000</i>	<i>102800</i>	<i>103</i>
<i>Chromium</i>	<i>20.0</i>	<i>22.2</i>	<i>111</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.9</i>	<i>105</i>
<i>Copper</i>	<i>20.0</i>	<i>19.2</i>	<i>96</i>
<i>Lead</i>		<i>0.190</i>	
<i>Magnesium</i>	<i>100000</i>	<i>98500</i>	<i>99</i>
<i>Manganese</i>	<i>20.0</i>	<i>22.0</i>	<i>110</i>
<i>Mercury</i>		<i>-0.0020</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2064</i>	<i>103</i>
<i>Nickel</i>	<i>20.0</i>	<i>20.4</i>	<i>102</i>
<i>Potassium</i>	<i>100000</i>	<i>99800</i>	<i>100</i>
<i>Selenium</i>		<i>0.0476</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.2</i>	<i>91</i>
<i>Sodium</i>	<i>100000</i>	<i>99560</i>	<i>100</i>
<i>Strontium</i>		<i>0.622</i>	
<i>Thallium</i>		<i>-0.0031</i>	
<i>Tin</i>		<i>0.0967</i>	
<i>Titanium</i>	<i>2000</i>	<i>2027</i>	<i>101</i>
<i>Vanadium</i>		<i>0.0363</i>	
<i>Zinc</i>	<i>20.0</i>	<i>21.5</i>	<i>107</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-345970/77 Instrument ID: ICPMSA
 Lab File ID: 134ICSA.D ICS Source: MS_ICSA_wk_00066
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	100000	97040	97
Arsenic		0.0979	
Iron	100000	98050	98
Lead		0.141	
<i>Antimony</i>		<i>0.0344</i>	
<i>Barium</i>		<i>0.100</i>	
<i>Beryllium</i>		<i>0.0096</i>	
<i>Boron</i>		<i>1.67</i>	
<i>Cadmium</i>		<i>0.0865</i>	
<i>Calcium</i>	<i>100000</i>	<i>102200</i>	<i>102</i>
<i>Chromium</i>		<i>1.31</i>	
<i>Cobalt</i>		<i>0.0912</i>	
<i>Copper</i>		<i>0.466</i>	
<i>Magnesium</i>	<i>100000</i>	<i>96800</i>	<i>97</i>
<i>Manganese</i>		<i>0.415</i>	
<i>Mercury</i>		<i>0.0045</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2083</i>	<i>104</i>
<i>Nickel</i>		<i>0.177</i>	
<i>Potassium</i>	<i>100000</i>	<i>98020</i>	<i>98</i>
<i>Selenium</i>		<i>-0.0005</i>	
<i>Silver</i>		<i>0.0143</i>	
<i>Sodium</i>	<i>100000</i>	<i>98220</i>	<i>98</i>
<i>Strontium</i>		<i>0.610</i>	
<i>Thallium</i>		<i>-0.0022</i>	
<i>Tin</i>		<i>0.0985</i>	
<i>Titanium</i>	<i>2000</i>	<i>1957</i>	<i>98</i>
<i>Vanadium</i>		<i>0.0113</i>	
<i>Zinc</i>		<i>1.56</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-345970/78 Instrument ID: ICPMSA
 Lab File ID: 135ICSB.D ICS Source: MS_ICSABwk_00065
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	100000	97240	97
Arsenic	20.0	21.1	105
Iron	100000	98420	98
Lead		0.165	
<i>Antimony</i>		<i>0.0373</i>	
<i>Barium</i>		<i>0.103</i>	
<i>Beryllium</i>		<i>0.0110</i>	
<i>Boron</i>		<i>1.30</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.8</i>	<i>94</i>
<i>Calcium</i>	<i>100000</i>	<i>103000</i>	<i>103</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.8</i>	<i>109</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.4</i>	<i>102</i>
<i>Copper</i>	<i>20.0</i>	<i>18.9</i>	<i>95</i>
<i>Magnesium</i>	<i>100000</i>	<i>98350</i>	<i>98</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.4</i>	<i>107</i>
<i>Mercury</i>		<i>0.0012</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2088</i>	<i>104</i>
<i>Nickel</i>	<i>20.0</i>	<i>20.0</i>	<i>100</i>
<i>Potassium</i>	<i>100000</i>	<i>98100</i>	<i>98</i>
<i>Selenium</i>		<i>0.0063</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.2</i>	<i>91</i>
<i>Sodium</i>	<i>100000</i>	<i>98890</i>	<i>99</i>
<i>Strontium</i>		<i>0.616</i>	
<i>Thallium</i>		<i>-0.0029</i>	
<i>Tin</i>		<i>0.123</i>	
<i>Titanium</i>	<i>2000</i>	<i>1978</i>	<i>99</i>
<i>Vanadium</i>		<i>0.0215</i>	
<i>Zinc</i>	<i>20.0</i>	<i>20.4</i>	<i>102</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-345970/109 Instrument ID: ICPMSA
 Lab File ID: 236ICSA.D ICS Source: MS_ICSA_wk_00066
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	100000	97040	97
Arsenic		0.0815	
Iron	100000	99210	99
Lead		0.142	
<i>Antimony</i>		<i>0.0423</i>	
<i>Barium</i>		<i>0.0909</i>	
<i>Beryllium</i>		<i>0.0096</i>	
<i>Boron</i>		<i>1.49</i>	
<i>Cadmium</i>		<i>0.148</i>	
<i>Calcium</i>	<i>100000</i>	<i>103400</i>	<i>103</i>
<i>Chromium</i>		<i>1.27</i>	
<i>Cobalt</i>		<i>0.0984</i>	
<i>Copper</i>		<i>0.486</i>	
<i>Magnesium</i>	<i>100000</i>	<i>96360</i>	<i>96</i>
<i>Manganese</i>		<i>0.602</i>	
<i>Mercury</i>		<i>0.0158</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2060</i>	<i>103</i>
<i>Nickel</i>		<i>0.184</i>	
<i>Potassium</i>	<i>100000</i>	<i>98200</i>	<i>98</i>
<i>Selenium</i>		<i>0.0052</i>	
<i>Silver</i>		<i>0.0142</i>	
<i>Sodium</i>	<i>100000</i>	<i>98240</i>	<i>98</i>
<i>Strontium</i>		<i>0.603</i>	
<i>Thallium</i>		<i>-0.0013</i>	
<i>Tin</i>		<i>0.114</i>	
<i>Titanium</i>	<i>2000</i>	<i>2004</i>	<i>100</i>
<i>Vanadium</i>		<i>0.0240</i>	
<i>Zinc</i>		<i>1.64</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-345970/110 Instrument ID: ICPMSA
 Lab File ID: 237ICSB.D ICS Source: MS_ICSABwk_00065
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	100000	96720	97
Arsenic	20.0	21.0	105
Iron	100000	99970	100
Lead		0.149	
<i>Antimony</i>		<i>0.0377</i>	
<i>Barium</i>		<i>0.104</i>	
<i>Beryllium</i>		<i>0.0147</i>	
<i>Boron</i>		<i>1.20</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.7</i>	<i>93</i>
<i>Calcium</i>	<i>100000</i>	<i>103300</i>	<i>103</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.6</i>	<i>108</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.4</i>	<i>102</i>
<i>Copper</i>	<i>20.0</i>	<i>18.8</i>	<i>94</i>
<i>Magnesium</i>	<i>100000</i>	<i>95950</i>	<i>96</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.5</i>	<i>107</i>
<i>Mercury</i>		<i>0.0107</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2078</i>	<i>104</i>
<i>Nickel</i>	<i>20.0</i>	<i>20.0</i>	<i>100</i>
<i>Potassium</i>	<i>100000</i>	<i>98640</i>	<i>99</i>
<i>Selenium</i>		<i>-0.0051</i>	
<i>Silver</i>	<i>20.0</i>	<i>17.9</i>	<i>90</i>
<i>Sodium</i>	<i>100000</i>	<i>98330</i>	<i>98</i>
<i>Strontium</i>		<i>0.595</i>	
<i>Thallium</i>		<i>-0.0021</i>	
<i>Tin</i>		<i>0.125</i>	
<i>Titanium</i>	<i>2000</i>	<i>1997</i>	<i>100</i>
<i>Vanadium</i>		<i>0.0178</i>	
<i>Zinc</i>	<i>20.0</i>	<i>20.3</i>	<i>102</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-345970/25 Instrument ID: ICPMSA
 Lab File ID: 003ICSA.D ICS Source: MS_ICSA_wk_00066
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	100000	98160	98
Arsenic		0.0993	
Iron	100000	99510	100
Lead		0.149	
<i>Antimony</i>		<i>0.0348</i>	
<i>Barium</i>		<i>0.0991</i>	
<i>Beryllium</i>		<i>0.0173</i>	
<i>Boron</i>		<i>0.544</i>	
<i>Cadmium</i>		<i>0.178</i>	
<i>Calcium</i>	<i>100000</i>	<i>104400</i>	<i>104</i>
<i>Chromium</i>		<i>1.24</i>	
<i>Cobalt</i>		<i>0.105</i>	
<i>Copper</i>		<i>0.467</i>	
<i>Magnesium</i>	<i>100000</i>	<i>97100</i>	<i>97</i>
<i>Manganese</i>		<i>0.669</i>	
<i>Mercury</i>		<i>-0.0040</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2104</i>	<i>105</i>
<i>Nickel</i>		<i>0.149</i>	
<i>Potassium</i>	<i>100000</i>	<i>98240</i>	<i>98</i>
<i>Selenium</i>		<i>-0.0036</i>	
<i>Silver</i>		<i>0.0156</i>	
<i>Sodium</i>	<i>100000</i>	<i>98530</i>	<i>99</i>
<i>Strontium</i>		<i>0.614</i>	
<i>Thallium</i>		<i>-0.0034</i>	
<i>Tin</i>		<i>0.0065</i>	
<i>Titanium</i>	<i>2000</i>	<i>2063</i>	<i>103</i>
<i>Vanadium</i>		<i>0.0186</i>	
<i>Zinc</i>		<i>1.79</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-346224/25 Instrument ID: ICPMSA
 Lab File ID: 003ICSA.D ICS Source: MS_ICSA_wk_00067
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	100000	99510	100
<i>Aluminum</i>	<i>100000</i>	<i>98160</i>	<i>98</i>
<i>Antimony</i>		<i>0.0348</i>	
<i>Arsenic</i>		<i>0.0993</i>	
<i>Barium</i>		<i>0.0991</i>	
<i>Beryllium</i>		<i>0.0173</i>	
<i>Boron</i>		<i>0.544</i>	
<i>Cadmium</i>		<i>0.178</i>	
<i>Calcium</i>	<i>100000</i>	<i>104400</i>	<i>104</i>
<i>Chromium</i>		<i>1.24</i>	
<i>Cobalt</i>		<i>0.105</i>	
<i>Copper</i>		<i>0.467</i>	
<i>Lead</i>		<i>0.149</i>	
<i>Magnesium</i>	<i>100000</i>	<i>97100</i>	<i>97</i>
<i>Manganese</i>		<i>0.669</i>	
<i>Mercury</i>		<i>-0.0040</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2104</i>	<i>105</i>
<i>Nickel</i>		<i>0.149</i>	
<i>Potassium</i>	<i>100000</i>	<i>98240</i>	<i>98</i>
<i>Selenium</i>		<i>-0.0036</i>	
<i>Silver</i>		<i>0.0156</i>	
<i>Sodium</i>	<i>100000</i>	<i>98530</i>	<i>99</i>
<i>Strontium</i>		<i>0.614</i>	
<i>Thallium</i>		<i>-0.0034</i>	
<i>Tin</i>		<i>0.0065</i>	
<i>Titanium</i>	<i>2000</i>	<i>2063</i>	<i>103</i>
<i>Vanadium</i>		<i>0.0186</i>	
<i>Zinc</i>		<i>1.79</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-345970/26 Instrument ID: ICPMSA
 Lab File ID: 004ICSB.D ICS Source: MS_ICSABwk_00065
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	100000	98070	98
Arsenic	20.0	20.8	104
Iron	100000	99570	100
Lead		0.146	
<i>Antimony</i>		<i>0.0360</i>	
<i>Barium</i>		<i>0.101</i>	
<i>Beryllium</i>		<i>0.0131</i>	
<i>Boron</i>		<i>0.201</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Calcium</i>	<i>100000</i>	<i>104300</i>	<i>104</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.2</i>	<i>106</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.5</i>	<i>102</i>
<i>Copper</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Magnesium</i>	<i>100000</i>	<i>97190</i>	<i>97</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.3</i>	<i>106</i>
<i>Mercury</i>		<i>-0.0127</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2089</i>	<i>104</i>
<i>Nickel</i>	<i>20.0</i>	<i>19.5</i>	<i>98</i>
<i>Potassium</i>	<i>100000</i>	<i>97810</i>	<i>98</i>
<i>Selenium</i>		<i>-0.0259</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.0</i>	<i>90</i>
<i>Sodium</i>	<i>100000</i>	<i>98580</i>	<i>99</i>
<i>Strontium</i>		<i>0.609</i>	
<i>Thallium</i>		<i>-0.0035</i>	
<i>Tin</i>		<i>0.0126</i>	
<i>Titanium</i>	<i>2000</i>	<i>2057</i>	<i>103</i>
<i>Vanadium</i>		<i>0.0031</i>	
<i>Zinc</i>	<i>20.0</i>	<i>19.9</i>	<i>99</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-346224/26 Instrument ID: ICPMSA
 Lab File ID: 004ICSB.D ICS Source: MS_ICSABwk_00066
 Concentration Units: ug/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
Iron	100000	99570	100
<i>Aluminum</i>	<i>100000</i>	<i>98070</i>	<i>98</i>
<i>Antimony</i>		<i>0.0360</i>	
<i>Arsenic</i>	<i>20.0</i>	<i>20.8</i>	<i>104</i>
<i>Barium</i>		<i>0.101</i>	
<i>Beryllium</i>		<i>0.0131</i>	
<i>Boron</i>		<i>0.201</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Calcium</i>	<i>100000</i>	<i>104300</i>	<i>104</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.2</i>	<i>106</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.5</i>	<i>102</i>
<i>Copper</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Lead</i>		<i>0.146</i>	
<i>Magnesium</i>	<i>100000</i>	<i>97190</i>	<i>97</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.3</i>	<i>106</i>
<i>Mercury</i>		<i>-0.0127</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2089</i>	<i>104</i>
<i>Nickel</i>	<i>20.0</i>	<i>19.5</i>	<i>98</i>
<i>Potassium</i>	<i>100000</i>	<i>97810</i>	<i>98</i>
<i>Selenium</i>		<i>-0.0259</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.0</i>	<i>90</i>
<i>Sodium</i>	<i>100000</i>	<i>98580</i>	<i>99</i>
<i>Strontium</i>		<i>0.609</i>	
<i>Thallium</i>		<i>-0.0035</i>	
<i>Tin</i>		<i>0.0126</i>	
<i>Titanium</i>	<i>2000</i>	<i>2057</i>	<i>103</i>
<i>Vanadium</i>		<i>0.0031</i>	
<i>Zinc</i>	<i>20.0</i>	<i>19.9</i>	<i>99</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-346224/87 Instrument ID: ICPMSA
 Lab File ID: 116ICSA.D ICS Source: MS_ICSA_wk_00067
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	100000	99180	99
<i>Aluminum</i>	<i>100000</i>	<i>97470</i>	<i>97</i>
<i>Antimony</i>		<i>0.0385</i>	
<i>Arsenic</i>		<i>0.104</i>	
<i>Barium</i>		<i>0.103</i>	
<i>Beryllium</i>		<i>0.0129</i>	
<i>Boron</i>		<i>2.42</i>	
<i>Cadmium</i>		<i>0.315</i>	
<i>Calcium</i>	<i>100000</i>	<i>103900</i>	<i>104</i>
<i>Chromium</i>		<i>1.28</i>	
<i>Cobalt</i>		<i>0.113</i>	
<i>Copper</i>		<i>0.496</i>	
<i>Lead</i>		<i>0.138</i>	
<i>Magnesium</i>	<i>100000</i>	<i>96050</i>	<i>96</i>
<i>Manganese</i>		<i>0.668</i>	
<i>Mercury</i>		<i>0.0119</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2111</i>	<i>106</i>
<i>Nickel</i>		<i>0.155</i>	
<i>Potassium</i>	<i>100000</i>	<i>100700</i>	<i>101</i>
<i>Selenium</i>		<i>-0.0048</i>	
<i>Silver</i>		<i>0.0135</i>	
<i>Sodium</i>	<i>100000</i>	<i>98700</i>	<i>99</i>
<i>Strontium</i>		<i>0.599</i>	
<i>Thallium</i>		<i>-0.0017</i>	
<i>Tin</i>		<i>0.0224</i>	
<i>Titanium</i>	<i>2000</i>	<i>2019</i>	<i>101</i>
<i>Vanadium</i>		<i>0.0249</i>	
<i>Zinc</i>		<i>2.05</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-346224/88 Instrument ID: ICPMSA
 Lab File ID: 117ICSB.D ICS Source: MS_ICSABwk_00066
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	100000	99240	99
<i>Aluminum</i>	<i>100000</i>	<i>97460</i>	<i>97</i>
<i>Antimony</i>		<i>0.0392</i>	
<i>Arsenic</i>	<i>20.0</i>	<i>21.2</i>	<i>106</i>
<i>Barium</i>		<i>0.0861</i>	
<i>Beryllium</i>		<i>0.0078</i>	
<i>Boron</i>		<i>1.90</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.1</i>	<i>90</i>
<i>Calcium</i>	<i>100000</i>	<i>104200</i>	<i>104</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.3</i>	<i>107</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.6</i>	<i>103</i>
<i>Copper</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Lead</i>		<i>0.135</i>	
<i>Magnesium</i>	<i>100000</i>	<i>96130</i>	<i>96</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.2</i>	<i>106</i>
<i>Mercury</i>		<i>0.0092</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2086</i>	<i>104</i>
<i>Nickel</i>	<i>20.0</i>	<i>19.9</i>	<i>100</i>
<i>Potassium</i>	<i>100000</i>	<i>100900</i>	<i>101</i>
<i>Selenium</i>		<i>-0.0092</i>	
<i>Silver</i>	<i>20.0</i>	<i>17.6</i>	<i>88</i>
<i>Sodium</i>	<i>100000</i>	<i>98370</i>	<i>98</i>
<i>Strontium</i>		<i>0.585</i>	
<i>Thallium</i>		<i>-0.0030</i>	
<i>Tin</i>		<i>0.0217</i>	
<i>Titanium</i>	<i>2000</i>	<i>1976</i>	<i>99</i>
<i>Vanadium</i>		<i>0.0216</i>	
<i>Zinc</i>	<i>20.0</i>	<i>19.7</i>	<i>99</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSA 680-346224/121 Instrument ID: ICPMSA
 Lab File ID: 150ICSA.D ICS Source: MS_ICSA_wk_00067
 Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Iron	100000	97190	97
<i>Aluminum</i>	<i>100000</i>	<i>98060</i>	<i>98</i>
<i>Antimony</i>		<i>0.0368</i>	
<i>Arsenic</i>		<i>0.0837</i>	
<i>Barium</i>		<i>0.0878</i>	
<i>Beryllium</i>		<i>0.0097</i>	
<i>Boron</i>		<i>0.364</i>	
<i>Cadmium</i>		<i>0.287</i>	
<i>Calcium</i>	<i>100000</i>	<i>104100</i>	<i>104</i>
<i>Chromium</i>		<i>1.28</i>	
<i>Cobalt</i>		<i>0.103</i>	
<i>Copper</i>		<i>0.439</i>	
<i>Lead</i>		<i>0.132</i>	
<i>Magnesium</i>	<i>100000</i>	<i>97290</i>	<i>97</i>
<i>Manganese</i>		<i>0.411</i>	
<i>Mercury</i>		<i>-0.0066</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2135</i>	<i>107</i>
<i>Nickel</i>		<i>0.195</i>	
<i>Potassium</i>	<i>100000</i>	<i>100800</i>	<i>101</i>
<i>Selenium</i>		<i>-0.0113</i>	
<i>Silver</i>		<i>0.0167</i>	
<i>Sodium</i>	<i>100000</i>	<i>99250</i>	<i>99</i>
<i>Strontium</i>		<i>0.597</i>	
<i>Thallium</i>		<i>-0.0048</i>	
<i>Tin</i>		<i>-0.0178</i>	
<i>Titanium</i>	<i>2000</i>	<i>1992</i>	<i>100</i>
<i>Vanadium</i>		<i>0.0234</i>	
<i>Zinc</i>		<i>1.78</i>	

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Lab Sample ID: ICSAB 680-346224/122 Instrument ID: ICPMSA
 Lab File ID: 151ICSB.D ICS Source: MS_ICSABwk_00066
 Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Iron	100000	98500	99
<i>Aluminum</i>	<i>100000</i>	<i>97580</i>	<i>98</i>
<i>Antimony</i>		<i>0.0313</i>	
<i>Arsenic</i>	<i>20.0</i>	<i>21.3</i>	<i>107</i>
<i>Barium</i>		<i>0.0803</i>	
<i>Beryllium</i>		<i>0.0104</i>	
<i>Boron</i>		<i>0.180</i>	
<i>Cadmium</i>	<i>20.0</i>	<i>18.6</i>	<i>93</i>
<i>Calcium</i>	<i>100000</i>	<i>103700</i>	<i>104</i>
<i>Chromium</i>	<i>20.0</i>	<i>21.5</i>	<i>107</i>
<i>Cobalt</i>	<i>20.0</i>	<i>20.5</i>	<i>103</i>
<i>Copper</i>	<i>20.0</i>	<i>18.8</i>	<i>94</i>
<i>Lead</i>		<i>0.159</i>	
<i>Magnesium</i>	<i>100000</i>	<i>96670</i>	<i>97</i>
<i>Manganese</i>	<i>20.0</i>	<i>21.0</i>	<i>105</i>
<i>Mercury</i>		<i>-0.0103</i>	
<i>Molybdenum</i>	<i>2000</i>	<i>2135</i>	<i>107</i>
<i>Nickel</i>	<i>20.0</i>	<i>20.1</i>	<i>100</i>
<i>Potassium</i>	<i>100000</i>	<i>99930</i>	<i>100</i>
<i>Selenium</i>		<i>-0.0282</i>	
<i>Silver</i>	<i>20.0</i>	<i>18.2</i>	<i>91</i>
<i>Sodium</i>	<i>100000</i>	<i>98590</i>	<i>99</i>
<i>Strontium</i>		<i>0.594</i>	
<i>Thallium</i>		<i>-0.0049</i>	
<i>Tin</i>		<i>-0.0068</i>	
<i>Titanium</i>	<i>2000</i>	<i>1991</i>	<i>100</i>
<i>Vanadium</i>		<i>0.0147</i>	
<i>Zinc</i>	<i>20.0</i>	<i>19.3</i>	<i>97</i>

Calculations are performed before rounding to avoid round-off errors in calculated results.

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: CV0004A-CS4" MS

Lab ID: 680-104534-1 MS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 80.6

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	8930	7100	554	329	75-125	4	6020A
Arsenic	22.2	9.9	11.1	111	75-125		6020A
Iron	19300	18000	554	211	75-125	4	6020A
Lead	138	140	5.54	55	75-125	4	6020A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

Note - Results and Reporting Limits have been adjusted for dry weight.

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: CV0004A-CS4" MSD Lab ID: 680-104534-1 MSD
 Lab Name: TestAmerica Savannah Job No.: 680-104534-1
 SDG No.: 680-104534-01
 Matrix: Solid Concentration Units: mg/Kg
 % Solids: 80.6

Analyte	(SDR) C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum	9080	544	362	75-125	2	20	4	6020A
Arsenic	23.0	10.9	120	75-125	4	20		6020A
Iron	25100	544	1284	75-125	26	20	4 F2	6020A
Lead	117	5.44	-334	75-125	17	20	4	6020A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Note - Results and Reporting Limits have been adjusted for dry weight.

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID: CV0004A-CS4" PDS

Lab ID: 680-104534-1 PDS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Matrix: Solid

Concentration Units: mg/Kg

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	7310	7100	111	NC	75-125		6020A
Arsenic	20.7	9.9	11.1	97	75-125		6020A
Iron	19700	18000	1110	NC	75-125		6020A
Lead	144	140	11.1	NC	75-125		6020A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 680-345543/2-A

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

Sample Matrix: Solid

LCS Source: MS_LCS1_WK_00013

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	455	539		119	75	125		6020A
Arsenic	9.09	10.1		111	75	125		6020A
Iron	455	568		125	75	125		6020A
Lead	4.55	4.81		106	75	125		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 680-104534-1

SDG No: 680-104534-01

Lab Name: TestAmerica Savannah

Job No: 680-104534-1

Matrix: Solid

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I) C		Serial Dilution Result (S) C		% Difference	Q	Method
Aluminum	7100		7530		6.0		6020A
Arsenic	9.9		10.1		1.6		6020A
Iron	18000		19500		7.4		6020A
Lead	140		135		0.14		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG Number: 680-104534-01
Matrix: Solid Instrument ID: ICPMSA
Method: 6020A MDL Date: 02/05/2011 00:00
Prep Method: 3050B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Aluminum		10	3.8
Arsenic		0.25	0.1
Iron		25	10
Lead		0.2	0.1

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG Number: 680-104534-01
Matrix: Solid Instrument ID: ICPMSA
Method: 6020A XMDL Date: 01/10/2014 15:30

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum		20	7.6
Arsenic		0.5	0.2
Iron		50	20
Lead		0.4	0.2

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Savannah

Job No: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA

Date: 01/25/2010 13:43

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum		90000	6020A
Arsenic		1800	6020A
Iron		90000	6020A
Lead		1800	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 680-345543/1-A	08/23/2014 07:56	345543	1.06		500
LCS 680-345543/2-A	08/23/2014 07:56	345543	1.10		500
680-104534-1	08/23/2014 07:56	345543	1.12		500
680-104534-1 MS	08/23/2014 07:56	345543	1.12		500
680-104534-1 MSD	08/23/2014 07:56	345543	1.14		500
680-104534-2	08/23/2014 07:56	345543	1.08		500
680-104534-3	08/23/2014 07:56	345543	1.18		500
680-104534-4	08/23/2014 07:56	345543	1.04		500
680-104534-5	08/23/2014 07:56	345543	1.15		500
680-104534-6	08/23/2014 07:56	345543	1.07		500
680-104534-7	08/23/2014 07:56	345543	1.00		500
680-104534-8	08/23/2014 07:56	345543	1.07		500
680-104534-9	08/23/2014 07:56	345543	1.06		500
680-104534-10	08/23/2014 07:56	345543	1.08		500
680-104534-11	08/23/2014 07:56	345543	1.05		500
680-104534-12	08/23/2014 07:56	345543	1.13		500
680-104534-13	08/23/2014 07:56	345543	1.12		500
680-104534-14	08/23/2014 07:56	345543	1.12		500
680-104534-15	08/23/2014 07:56	345543	1.07		500
680-104534-16	08/23/2014 07:56	345543	1.11		500
680-104534-17	08/23/2014 07:56	345543	1.11		500
680-104534-18	08/23/2014 07:56	345543	1.04		500

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				A l	A s	F e	P b														
ITUNE 680-345970/1			09:59																		
CALIBSTD 680-345970/2 IC	1		10:37	X	X	X	X														
IC 680-345970/3	1		10:44	X	X	X	X														
IC 680-345970/4	1		10:51	X	X	X	X														
IC 680-345970/5	1		10:59	X	X	X	X														
IC 680-345970/6	1		11:06	X	X	X	X														
IC 680-345970/7	1		11:13	X	X	X	X														
ZZZZZZ			11:21																		
ICV 680-345970/9	1		11:28	X	X	X	X														
ICB 680-345970/10	1		11:36	X	X	X	X														
CRI 680-345970/11			11:43																		
CCV 680-345970/12	1		11:50	X	X	X	X														
CCB 680-345970/13	1		11:58	X	X	X	X														
ICSA 680-345970/14	1		12:05	X	X	X	X														
ICSAB 680-345970/15	1		12:13	X	X	X	X														
ZZZZZZ			12:20																		
ZZZZZZ			12:27																		
ZZZZZZ			12:35																		
ZZZZZZ			12:42																		
ZZZZZZ			12:50																		
CCV 680-345970/21	1		12:57	X	X	X	X														
CCB 680-345970/22	1		13:04	X	X	X	X														
CCV 680-345970/75	1		02:16	X	X	X	X														
CCB 680-345970/76	1		02:23	X	X	X	X														
ICSA 680-345970/77	1		02:31	X	X	X	X														
ICSAB 680-345970/78	1		02:38	X	X	X	X														
ZZZZZZ			02:46																		
ZZZZZZ			02:53																		
ZZZZZZ			03:00																		
ZZZZZZ			03:08																		
CCV 680-345970/83	1		03:15	X	X	X	X														
CCB 680-345970/84	1		03:23	X	X	X	X														
CCV 680-345970/85			12:07																		
CCB 680-345970/86			12:14																		
ZZZZZZ			12:21																		
ZZZZZZ			12:29																		
ZZZZZZ			12:36																		
ZZZZZZ			12:44																		
ZZZZZZ			12:51																		
ZZZZZZ			12:58																		
ZZZZZZ			13:06																		

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				A l	A s	F e	P b														
ZZZZZZ			13:13																		
ZZZZZZ			13:20																		
CCV 680-345970/96			13:28																		
CCB 680-345970/97			13:35																		
ZZZZZZ			13:43																		
ZZZZZZ			13:50																		
ZZZZZZ			13:58																		
ZZZZZZ			14:05																		
ZZZZZZ			14:12																		
ZZZZZZ			14:20																		
ZZZZZZ			14:27																		
ZZZZZZ			14:35																		
CRI 680-345970/106			14:42																		
CCV 680-345970/107	1		14:49	X	X	X	X														
CCB 680-345970/108	1		14:57	X	X	X	X														
ICSA 680-345970/109	1		15:04	X	X	X	X														
ICSAB 680-345970/110	1		15:12	X	X	X	X														
ZZZZZZ			15:19																		
ZZZZZZ			15:26																		
ZZZZZZ			15:34																		
CCV 680-345970/114	1		15:41	X	X	X	X														
CCB 680-345970/115	1		15:49	X	X	X	X														
ZZZZZZ			15:56																		
ZZZZZZ			16:04																		
ZZZZZZ			16:11																		
ZZZZZZ			16:18																		
ZZZZZZ			16:26																		
ZZZZZZ			16:33																		
ZZZZZZ			16:40																		
ZZZZZZ			16:47																		
CCV 680-345970/124			16:55																		
CCB 680-345970/125			17:02																		
ZZZZZZ			17:10																		
ZZZZZZ			17:17																		
ZZZZZZ			17:24																		
ZZZZZZ			17:32																		
ZZZZZZ			17:39																		
ZZZZZZ			17:46																		
ZZZZZZ			17:54																		
ZZZZZZ			18:01																		
ZZZZZZ			18:08																		
ZZZZZZ			18:16																		

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				A l	A s	F e	P b														
CCV 680-345970/136			18:23																		
CCB 680-345970/137			18:30																		
ZZZZZZ			18:38																		
ZZZZZZ			18:45																		
ZZZZZZ			18:52																		
ZZZZZZ			19:00																		
CCV 680-345970/142			19:07																		
CCB 680-345970/143			19:15																		
ZZZZZZ			19:22																		
ZZZZZZ			19:29																		
ZZZZZZ			19:37																		
ZZZZZZ			19:44																		
ZZZZZZ			19:51																		
ZZZZZZ			19:59																		
ZZZZZZ			20:06																		
ZZZZZZ			20:14																		
ZZZZZZ			20:21																		
CCV 680-345970/153			20:29																		
CCB 680-345970/154			20:36																		
ZZZZZZ			20:43																		
ZZZZZZ			20:51																		
ZZZZZZ			20:58																		
ZZZZZZ			21:06																		
ZZZZZZ			21:13																		
ZZZZZZ			21:20																		
CCV 680-345970/161			21:28																		
CCB 680-345970/162			21:35																		
ZZZZZZ			21:43																		
ZZZZZZ			21:50																		
ZZZZZZ			21:57																		
ZZZZZZ			22:05																		
ZZZZZZ			22:12																		
ZZZZZZ			22:19																		
ZZZZZZ			22:27																		
ZZZZZZ			22:34																		
ZZZZZZ			22:41																		
ZZZZZZ			22:49																		
CCV 680-345970/173			22:56																		
CCB 680-345970/174			23:03																		
ZZZZZZ			23:11																		
ZZZZZZ			23:18																		
ZZZZZZ			23:26																		

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				A l	A s	F e	P b														
CCV 680-345970/178	1		23:33	X	X	X	X														
CCB 680-345970/179	1		23:41	X	X	X	X														
MB 680-345543/1-A	1	T	23:48	X	X	X	X														
LCS 680-345543/2-A	1	T	23:55	X	X	X	X														
680-104534-1	1	T	00:03	X	X	X	X														
680-104534-1 SD	5	T	00:10	X	X	X	X														
680-104534-1 PDS	1	T	00:17	X	X	X	X														
680-104534-1 MS	1	T	00:25	X	X	X	X														
680-104534-1 MSD	1	T	00:32	X	X	X	X														
680-104534-2	1	T	00:39	X	X	X	X														
680-104534-3	1	T	00:46	X	X	X	X														
680-104534-4	1	T	00:54	X	X	X	X														
CCV 680-345970/190	1		01:01	X	X	X	X														
CCB 680-345970/191	1		01:08	X	X	X	X														
680-104534-5	1	T	01:16	X	X		X														
680-104534-6	1	T	01:23	X	X		X														
680-104534-7	1	T	01:30	X	X		X														
680-104534-8	1	T	01:38	X	X		X														
680-104534-9	1	T	01:45	X	X		X														
680-104534-10	1	T	01:53	X	X		X														
680-104534-11	1	T	02:00	X	X		X														
680-104534-12	1	T	02:07	X	X		X														
680-104534-13	1	T	02:15	X	X		X														
680-104534-14	1	T	02:22	X	X	X	X														
CCV 680-345970/202	1		02:29	X	X	X	X														
CCB 680-345970/203	1		02:37	X	X	X	X														
680-104534-15	1	T	02:44	X	X	X	X														
680-104534-16	1	T	02:51	X	X	X	X														
680-104534-17	1	T	02:59	X	X	X	X														
680-104534-18	1	T	03:06	X	X	X	X														
ZZZZZZ			03:13																		
ZZZZZZ			03:21																		
CCV 680-345970/210	1		03:28	X	X	X	X														
CCB 680-345970/211	1		03:35	X	X	X	X														
CCV 680-345970/23	1		07:53	X	X	X	X														
CCB 680-345970/24	1		08:00	X	X	X	X														
ICSA 680-345970/25	1		08:08	X	X	X	X														
ICSAB 680-345970/26	1		08:15	X	X	X	X														
ZZZZZZ			08:23																		
ZZZZZZ			08:30																		
ZZZZZZ			08:38																		
ZZZZZZ			08:46																		

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																			
				A l	A s	F e	P b																
CCV 680-345970/31	1		08:54	X	X	X	X																
CCB 680-345970/32	1		09:01	X	X	X	X																
ZZZZZZ			09:08																				
ZZZZZZ			09:16																				
ZZZZZZ			09:23																				
ZZZZZZ			09:30																				
ZZZZZZ			09:38																				
ZZZZZZ			09:45																				
ZZZZZZ			09:52																				
ZZZZZZ			10:00																				
ZZZZZZ			10:07																				
ZZZZZZ			10:15																				
CCV 680-345970/43			10:22																				
CCB 680-345970/44			10:29																				
CCV 680-345970/45			10:37																				
CCB 680-345970/46			10:44																				
ZZZZZZ			10:52																				
ZZZZZZ			10:59																				
ZZZZZZ			11:06																				
ZZZZZZ			11:14																				
ZZZZZZ			11:21																				
ZZZZZZ			11:28																				
ZZZZZZ			11:36																				
ZZZZZZ			11:43																				
ZZZZZZ			11:50																				
CCV 680-345970/56			11:58																				
CCB 680-345970/57			12:05																				
ZZZZZZ			12:12																				
ZZZZZZ			12:20																				
ZZZZZZ			12:27																				
ZZZZZZ			12:35																				
ZZZZZZ			12:42																				
ZZZZZZ			12:49																				
ZZZZZZ			12:57																				
ZZZZZZ			13:04																				
ZZZZZZ			13:11																				
CCV 680-345970/67	1		13:19	X	X	X	X																
CCB 680-345970/68	1		13:26	X	X	X	X																
ZZZZZZ			13:34																				
ZZZZZZ			13:41																				
ZZZZZZ			13:48																				
CRI 680-345970/72	1		13:56	X	X	X	X																

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/26/2014 14:11

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				A l	A s	F e	P b														
CCV 680-345970/73	1		14:03	X	X	X	X														
CCB 680-345970/74	1		14:11	X	X	X	X														

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/27/2014 15:01

Lab Sample ID	D / F	T y p e	Time	Analytes															
				F e															
ITUNE 680-346224/1			09:59																
CALIBSTD 680-346224/2 IC	1		10:37	X															
IC 680-346224/3	1		10:44	X															
IC 680-346224/4	1		10:51	X															
IC 680-346224/5	1		10:59	X															
IC 680-346224/6	1		11:06	X															
IC 680-346224/7	1		11:13	X															
ZZZZZZ			11:21																
ICV 680-346224/9	1		11:28	X															
ICB 680-346224/10	1		11:36	X															
CRI 680-346224/11	1		11:43	X															
CCV 680-346224/12	1		11:50	X															
CCB 680-346224/13	1		11:58	X															
ICSA 680-346224/14	1		12:05	X															
ICSAB 680-346224/15	1		12:13	X															
ZZZZZZ			12:20																
ZZZZZZ			12:27																
ZZZZZZ			12:35																
ZZZZZZ			12:42																
ZZZZZZ			12:50																
CCV 680-346224/22	1		12:57	X															
CCB 680-346224/23	1		13:04	X															
CCV 680-346224/17	1		07:53	X															
CCB 680-346224/24	1		08:00	X															
ICSA 680-346224/25	1		08:08	X															
ICSAB 680-346224/26	1		08:15	X															
ZZZZZZ			08:23																
ZZZZZZ			08:30																
ZZZZZZ			08:38																
ZZZZZZ			08:46																
CCV 680-346224/31	1		08:54	X															
CCB 680-346224/32	1		09:01	X															
CCV 680-346224/33	1		14:03	X															
CCB 680-346224/34	1		14:11	X															
680-104534-5	4	T	14:18	X															
680-104534-6	4	T	14:25	X															
680-104534-7	4	T	14:33	X															
680-104534-8	4	T	14:40	X															
680-104534-9	4	T	14:48	X															
CRI 680-346224/40			14:55																
CCV 680-346224/41	1		15:02	X															

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/27/2014 15:01

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				F e																	
CCB 680-346224/42	1		15:10	X																	
CCV 680-346224/43			16:39																		
CCB 680-346224/44			16:46																		
ZZZZZZ			16:53																		
ZZZZZZ			17:01																		
ZZZZZZ			17:08																		
ZZZZZZ			17:16																		
ZZZZZZ			17:23																		
ZZZZZZ			17:30																		
ZZZZZZ			17:38																		
ZZZZZZ			17:45																		
ZZZZZZ			17:52																		
CCV 680-346224/54			18:00																		
CCB 680-346224/55			18:07																		
ZZZZZZ			18:15																		
ZZZZZZ			18:22																		
ZZZZZZ			18:29																		
ZZZZZZ			18:37																		
ZZZZZZ			18:44																		
ZZZZZZ			18:51																		
ZZZZZZ			18:59																		
ZZZZZZ			19:06																		
ZZZZZZ			19:13																		
CCV 680-346224/65			19:21																		
CCB 680-346224/66			19:28																		
ZZZZZZ			19:36																		
ZZZZZZ			19:43																		
ZZZZZZ			19:50																		
ZZZZZZ			19:58																		
ZZZZZZ			20:05																		
ZZZZZZ			20:12																		
ZZZZZZ			20:20																		
CRI 680-346224/74			20:27																		
CCV 680-346224/75			20:35																		
CCB 680-346224/76			20:42																		
ZZZZZZ			20:49																		
ZZZZZZ			20:57																		
ZZZZZZ			21:04																		
ZZZZZZ			21:12																		
ZZZZZZ			21:19																		
ZZZZZZ			21:26																		
ZZZZZZ			21:34																		

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/27/2014 15:01

Lab Sample ID	D / F	T y p e	Time	Analytes															
				F e															
CRI 680-346224/84			21:41																
CCV 680-346224/85	1		21:48	X															
CCB 680-346224/86	1		21:56	X															
ICSA 680-346224/87	1		22:03	X															
ICSAB 680-346224/88	1		22:11	X															
ZZZZZZ			22:18																
ZZZZZZ			22:26																
ZZZZZZ			22:33																
CCV 680-346224/92	1		22:40	X															
CCB 680-346224/93	1		22:48	X															
ZZZZZZ			22:55																
ZZZZZZ			23:02																
ZZZZZZ			23:10																
ZZZZZZ			23:17																
ZZZZZZ			23:24																
ZZZZZZ			23:32																
ZZZZZZ			23:39																
ZZZZZZ			23:46																
ZZZZZZ			23:54																
ZZZZZZ			00:01																
CCV 680-346224/104			00:09																
CCB 680-346224/105			00:16																
ZZZZZZ			00:23																
ZZZZZZ			00:31																
ZZZZZZ			00:38																
ZZZZZZ			00:45																
ZZZZZZ			00:53																
ZZZZZZ			01:00																
CCV 680-346224/112			01:07																
CCB 680-346224/113			01:15																
RINSE 680-346224/114			09:56																
RINSE 680-346224/115			10:03																
CCV 680-346224/116			10:11																
CCB 680-346224/117			10:18																
RINSE 680-346224/118			10:25																
CCV 680-346224/119	1		10:33	X															
CCB 680-346224/120	1		10:40	X															
ICSA 680-346224/121	1		10:48	X															
ICSAB 680-346224/122	1		10:55	X															
ZZZZZZ			11:03																
ZZZZZZ			11:10																
ZZZZZZ			11:17																

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: ICPMSA Method: 6020A

Start Date: 08/24/2014 09:59 End Date: 08/27/2014 15:01

Lab Sample ID	D / F	T y p e	Time	Analytes																	
				F e																	
CCV 680-346224/126	1		11:25	X																	
CCB 680-346224/127	1		11:32	X																	
680-104534-10	4	T	11:39	X																	
680-104534-11	4	T	11:47	X																	
680-104534-12	10	T	11:54	X																	
680-104534-13	10	T	12:02	X																	
ZZZZZZ			12:09																		
ZZZZZZ			12:17																		
ZZZZZZ			12:24																		
ZZZZZZ			12:31																		
ZZZZZZ			12:39																		
CCV 680-346224/137	1		12:46	X																	
CCB 680-346224/138	1		12:53	X																	
ZZZZZZ			13:01																		
ZZZZZZ			13:08																		
ZZZZZZ			13:16																		
ZZZZZZ			13:23																		
ZZZZZZ			13:30																		
ZZZZZZ			13:38																		
ZZZZZZ			13:45																		
ZZZZZZ			13:52																		
ZZZZZZ			14:00																		
CCV 680-346224/148	1		14:07	X																	
CCB 680-346224/149	1		14:15	X																	
ZZZZZZ			14:22																		
ZZZZZZ			14:29																		
ZZZZZZ			14:37																		
CRI 680-346224/153	1		14:44	X																	
CCV 680-346224/154	1		14:54	X																	
CCB 680-346224/155	1		15:01	X																	

Prep Types

T = Total/NA

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
ICP-MS Instrument ID: ICPMSA Analysis Date: 08/24/14
Lab ID: ITUNE 680-345970/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	9.00	0.65	0.40	
Mg-24	24.05	0.60	0.58	
Mg-25	25.00	0.65	0.63	
Mg-26	26.00	0.65	0.53	
Co-59	59.05	0.55	0.43	
In-113	113.00	0.65	0.29	
In-115	115.05	0.60	0.33	
Pb-206	206.05	0.60	0.38	
Pb-207	207.00	0.65	0.61	
Pb-208	208.00	0.60	0.60	

14-IN
ICP-MS TUNE
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1
SDG No.: 680-104534-01
ICP-MS Instrument ID: ICPMSA Analysis Date: 08/24/14
Lab ID: ITUNE 680-346224/1

Element - Mass	Avg. Measured Mass (amu)	Avg. Peak Width at Peak Height (amu)	% RSD	Q
Be-9	9.00	0.65	0.40	
Mg-24	24.05	0.60	0.58	
Mg-25	25.00	0.65	0.63	
Mg-26	26.00	0.65	0.53	
Co-59	59.05	0.55	0.43	
In-113	113.00	0.65	0.29	
In-115	115.05	0.60	0.33	
Pb-206	206.05	0.60	0.38	
Pb-207	207.00	0.65	0.61	
Pb-208	208.00	0.60	0.60	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA

Start Date: 08/24/2014 End Date: 08/26/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
CALIBSTD 680-345970/1	10:37	100		100		100		100		100	
IC 680-345970/3	10:44	100		106		100		104		100	
IC 680-345970/4	10:51	102		108		102		106		102	
IC 680-345970/5	10:59	101		108		100		106		104	
IC 680-345970/6	11:06	101		115		104		112		103	
IC 680-345970/7	11:13	98		109		105		106		103	
ICV 680-345970/9	11:28	104		110		105		108		104	
ICB 680-345970/10	11:36	102		108		103		107		100	
CCV 680-345970/12	11:50	100		109		104		108		103	
CCB 680-345970/13	11:58	101		106		100		106		102	
ICSA 680-345970/14	12:05	98		109		104		101		97	
ICSAB 680-345970/15	12:13	94		105		100		98		94	
CCV 680-345970/21	12:57	94		102		101		103		97	
CCB 680-345970/22	13:04	97		102		100		104		98	
CCV 680-345970/75	02:16	93		98		96		101		97	
CCB 680-345970/76	02:23	93		94		92		99		94	
ICSA 680-345970/77	02:31	97		98		104		95		94	
ICSAB 680-345970/78	02:38	96		104		103		99		95	
CCV 680-345970/83	03:15	93		97		98		101		96	
CCB 680-345970/84	03:23	92		94		93		99		93	
CCV 680-345970/107	14:49	96		97		98		100		96	
CCB 680-345970/108	14:57	95		94		94		98		94	
ICSA 680-345970/109	15:04	91		94		98		91		91	
ICSAB 680-345970/110	15:12	91		94		98		91		90	
CCV 680-345970/114	15:41	91		95		97		98		94	
CCB 680-345970/115	15:49	91		92		93		96		93	
CCV 680-345970/178	23:33	90		92		94		96		93	
CCB 680-345970/179	23:41	88		89		89		93		91	
MB 680-345543/1-A	23:48	88		90		90		93		90	
LCS 680-345543/2-A	23:55	91		90		91		93		92	
680-104534-1	00:03	91		99		102		96		95	
680-104534-1 SD	00:10	91		93		95		96		94	
680-104534-1 PDS	00:17	90		97		104		95		94	
680-104534-1 MS	00:25	89		98		103		94		92	
680-104534-1 MSD	00:32	88		97		101		93		91	
680-104534-2	00:39	88		106		112		93		91	
680-104534-3	00:46	88		124		121		101		93	
680-104534-4	00:54	78		98		96		86		82	
CCV 680-345970/190	01:01	76		76		80		81		80	
CCB 680-345970/191	01:08	79		79		81		83		81	
680-104534-5	01:16	75		106		105		83		77	
680-104534-6	01:23	72		103		104		78		74	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA Start Date: 08/24/2014 End Date: 08/26/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
680-104534-7	01:30	72		102		103		78		76	
680-104534-8	01:38	72		107		110		79		77	
680-104534-9	01:45	71		111		109		78		75	
680-104534-10	01:53	76		101		107		81		79	
680-104534-11	02:00	75		107		109		81		78	
680-104534-12	02:07	72		125		126		78		71	
680-104534-13	02:15	72		114		121		72		74	
680-104534-14	02:22	74		81		83		78		76	
CCV 680-345970/202	02:29	74		80		78		82		78	
CCB 680-345970/203	02:37	73		73		76		78		78	
680-104534-15	02:44	82		93		103		82		83	
680-104534-16	02:51	82		88		91		86		87	
680-104534-17	02:59	84		90		97		87		87	
680-104534-18	03:06	84		92		97		90		89	
CCV 680-345970/210	03:28	82		84		88		88		88	
CCB 680-345970/211	03:35	83		83		86		87		87	
CCV 680-345970/23	07:53	77		81		83		85		83	
CCB 680-345970/24	08:00	75		76		78		81		79	
ICSA 680-345970/25	08:08	85		87		92		85		85	
ICSAB 680-345970/26	08:15	85		87		92		85		84	
CCV 680-345970/31	08:54	81		83		88		88		87	
CCB 680-345970/32	09:01	83		82		87		87		86	
CCV 680-345970/67	13:19	84		82		86		85		84	
CCB 680-345970/68	13:26	84		81		83		85		85	
CRI 680-345970/72	13:56	87		85		89		87		84	
CCV 680-345970/73	14:03	87		85		89		88		87	
CCB 680-345970/74	14:11	86		83		86		87		86	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA

Start Date: 08/24/2014 End Date: 08/26/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
CALIBSTD 680-345970/	10:37	100		100		100		100		100	
IC 680-345970/3	10:44	100		100		101		99		99	
IC 680-345970/4	10:51	102		102		102		101		101	
IC 680-345970/5	10:59	102		100		100		99		98	
IC 680-345970/6	11:06	103		103		101		100		99	
IC 680-345970/7	11:13	102		102		100		99		96	
ICV 680-345970/9	11:28	104		104		103		101		100	
ICB 680-345970/10	11:36	103		103		104		101		101	
CCV 680-345970/12	11:50	103		104		102		102		100	
CCB 680-345970/13	11:58	101		101		101		100		101	
ICSA 680-345970/14	12:05	98		102		96		98		85	
ICSAB 680-345970/15	12:13	95		99		95		96		84	
CCV 680-345970/21	12:57	101		102		101		100		97	
CCB 680-345970/22	13:04	101		102		102		100		100	
CCV 680-345970/75	02:16	97		98		97		95		92	
CCB 680-345970/76	02:23	96		96		96		94		93	
ICSA 680-345970/77	02:31	98		102		94		95		79	
ICSAB 680-345970/78	02:38	98		102		95		94		80	
CCV 680-345970/83	03:15	100		100		99		97		94	
CCB 680-345970/84	03:23	97		98		98		95		94	
CCV 680-345970/107	14:49	99		100		98		95		92	
CCB 680-345970/108	14:57	97		98		98		95		92	
ICSA 680-345970/109	15:04	93		98		92		92		75	
ICSAB 680-345970/110	15:12	94		99		92		91		75	
CCV 680-345970/114	15:41	99		100		98		96		92	
CCB 680-345970/115	15:49	96		98		99		95		94	
CCV 680-345970/178	23:33	96		98		96		92		88	
CCB 680-345970/179	23:41	93		95		94		90		89	
MB 680-345543/1-A	23:48	93		95		94		91		89	
LCS 680-345543/2-A	23:55	94		96		95		92		87	
680-104534-1	00:03	96		128		97		94		91	
680-104534-1 SD	00:10	97		105		98		93		92	
680-104534-1 PDS	00:17	97		129		97		94		90	
680-104534-1 MS	00:25	96		131	*	96		95		90	
680-104534-1 MSD	00:32	95		127		95		93		88	
680-104534-2	00:39	94		147	*	95		94		88	
680-104534-3	00:46	96		143	*	96		94		88	
680-104534-4	00:54	84		133	*	87		89		84	
CCV 680-345970/190	01:01	85		87		87		86		84	
CCB 680-345970/191	01:08	85		88		89		87		85	
680-104534-5	01:16	79		156	*	83		86		76	
680-104534-6	01:23	77		142	*	81		84		73	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA

Start Date: 08/24/2014 End Date: 08/26/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
680-104534-7	01:30	77		136	*	80		83		73	
680-104534-8	01:38	77		128		80		82		72	
680-104534-9	01:45	76		124		78		81		68	*
680-104534-10	01:53	82		147	*	84		85		73	
680-104534-11	02:00	80		138	*	82		83		71	
680-104534-12	02:07	76		158	*	78		82		69	*
680-104534-13	02:15	76		145	*	79		81		69	*
680-104534-14	02:22	81		116		83		82		75	
CCV 680-345970/202	02:29	81		84		83		81		73	
CCB 680-345970/203	02:37	80		84		83		81		74	
680-104534-15	02:44	88		141	*	89		88		79	
680-104534-16	02:51	89		124		90		87		84	
680-104534-17	02:59	90		126		91		89		84	
680-104534-18	03:06	92		122		93		90		86	
CCV 680-345970/210	03:28	92		94		92		88		82	
CCB 680-345970/211	03:35	91		93		92		87		83	
CCV 680-345970/23	07:53	88		88		87		85		77	
CCB 680-345970/24	08:00	83		85		85		82		77	
ICSA 680-345970/25	08:08	90		94		88		85		69	*
ICSAB 680-345970/26	08:15	90		95		88		86		69	*
CCV 680-345970/31	08:54	92		94		92		88		84	
CCB 680-345970/32	09:01	92		93		92		88		84	
CCV 680-345970/67	13:19	88		91		88		83		74	
CCB 680-345970/68	13:26	88		89		88		83		75	
CRI 680-345970/72	13:56	90		93		91		85		79	
CCV 680-345970/73	14:03	92		94		90		85		77	
CCB 680-345970/74	14:11	89		91		89		84		77	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA

Start Date: 08/24/2014 End Date: 08/27/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
CALIBSTD 680-346224/1	10:37	100		100		100		100		100	
IC 680-346224/3	10:44	100		106		100		104		100	
IC 680-346224/4	10:51	102		108		102		106		102	
IC 680-346224/5	10:59	101		108		100		106		104	
IC 680-346224/6	11:06	101		115		104		112		103	
IC 680-346224/7	11:13	98		109		105		106		103	
ICV 680-346224/9	11:28	104		110		105		108		104	
ICB 680-346224/10	11:36	102		108		103		107		100	
CRI 680-346224/11	11:43	102		107		102		106		102	
CCV 680-346224/12	11:50	100		109		104		108		103	
CCB 680-346224/13	11:58	101		106		100		106		102	
ICSA 680-346224/14	12:05	98		109		104		101		97	
ICSAB 680-346224/15	12:13	94		105		100		98		94	
CCV 680-346224/22	12:57	94		102		101		103		97	
CCB 680-346224/23	13:04	97		102		100		104		98	
CCV 680-346224/17	07:53	77		81		83		85		83	
CCB 680-346224/24	08:00	75		76		78		81		79	
ICSA 680-346224/25	08:08	85		87		92		85		85	
ICSAB 680-346224/26	08:15	85		87		92		85		84	
CCV 680-346224/31	08:54	81		83		88		88		87	
CCB 680-346224/32	09:01	83		82		87		87		86	
CCV 680-346224/33	14:03	87		85		89		88		87	
CCB 680-346224/34	14:11	86		83		86		87		86	
680-104534-5	14:18	87		94		97		90		89	
680-104534-6	14:25	81		88		88		84		81	
680-104534-7	14:33	78		81		85		78		78	
680-104534-8	14:40	77		83		87		78		77	
680-104534-9	14:48	74		82		83		77		74	
CCV 680-346224/41	15:02	75		73		77		77		76	
CCB 680-346224/42	15:10	74		75		76		79		78	
CCV 680-346224/85	21:48	87		85		89		89		88	
CCB 680-346224/86	21:56	88		89		88		92		88	
CCV 680-346224/92	22:40	96		98		106		99		97	
CCB 680-346224/93	22:48	94		94		100		97		96	
CCV 680-346224/119	10:33	101		99		106		100		98	
CCB 680-346224/120	10:40	92		91		93		94		85	
CCV 680-346224/126	11:25	94		95		102		97		92	
CCB 680-346224/127	11:32	88		92		91		96		92	
680-104534-10	11:39	95		101		109		97		94	
680-104534-11	11:47	84		96		94		91		85	
680-104534-12	11:54	81		86		88		85		80	
680-104534-13	12:02	80		83		86		82		80	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA Start Date: 08/24/2014 End Date: 08/27/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Sc-45	Q	Element Ge/1	Q	Element Ge/2	Q
CCV 680-346224/137	12:46	91		88		92		90		86	
CCB 680-346224/138	12:53	88		86		88		90		86	
CCV 680-346224/148	14:07	92		90		94		91		87	
CCB 680-346224/149	14:15	92		88		91		91		89	
CRI 680-346224/153	14:44	92		87		90		90		89	
CCV 680-346224/154	14:54	93		90		95		92		89	
CCB 680-346224/155	15:01	92		88		91		91		89	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

ICP-MS Instrument ID: ICPMSA

Start Date: 08/24/2014 End Date: 08/27/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
CALIBSTD 680-346224/1	10:37	100		100		100		100		100	
IC 680-346224/3	10:44	100		100		101		99		99	
IC 680-346224/4	10:51	102		102		102		101		101	
IC 680-346224/5	10:59	102		100		100		99		98	
IC 680-346224/6	11:06	103		103		101		100		99	
IC 680-346224/7	11:13	102		102		100		99		96	
ICV 680-346224/9	11:28	104		104		103		101		100	
ICB 680-346224/10	11:36	103		103		104		101		101	
CRI 680-346224/11	11:43	102		103		103		102		102	
CCV 680-346224/12	11:50	103		104		102		102		100	
CCB 680-346224/13	11:58	101		101		101		100		101	
ICSA 680-346224/14	12:05	98		102		96		98		85	
ICSAB 680-346224/15	12:13	95		99		95		96		84	
CCV 680-346224/22	12:57	101		102		101		100		97	
CCB 680-346224/23	13:04	101		102		102		100		100	
CCV 680-346224/17	07:53	88		88		87		85		77	
CCB 680-346224/24	08:00	83		85		85		82		77	
ICSA 680-346224/25	08:08	90		94		88		85			
ICSAB 680-346224/26	08:15	90		95		88		86			
CCV 680-346224/31	08:54	92		94		92		88		84	
CCB 680-346224/32	09:01	92		93		92		88		84	
CCV 680-346224/33	14:03	92		94		90		85		77	
CCB 680-346224/34	14:11	89		91		89		84		77	
680-104534-5	14:18	91		114		90		86		78	
680-104534-6	14:25	84		103		86		83		75	
680-104534-7	14:33	81		100		84		81		74	
680-104534-8	14:40	81		97		83		81		72	
680-104534-9	14:48	78		93		81		79		71	
CCV 680-346224/41	15:02	82		84		82		79		71	
CCB 680-346224/42	15:10	79		82		80		76		72	
CCV 680-346224/85	21:48	93		95		91		86		78	
CCB 680-346224/86	21:56	92		95		93		87		83	
CCV 680-346224/92	22:40	103		105		101		94		87	
CCB 680-346224/93	22:48	100		101		99		91		87	
CCV 680-346224/119	10:33	103		104		98		91		81	
CCB 680-346224/120	10:40	97		97		95		87		81	
CCV 680-346224/126	11:25	100		101		96		90		82	
CCB 680-346224/127	11:32	94		95		91		84		78	
680-104534-10	11:39	101		120		98		91		84	
680-104534-11	11:47	89		106		88		86		78	
680-104534-12	11:54	86		96		87		84		78	
680-104534-13	12:02	85		95		86		84		76	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

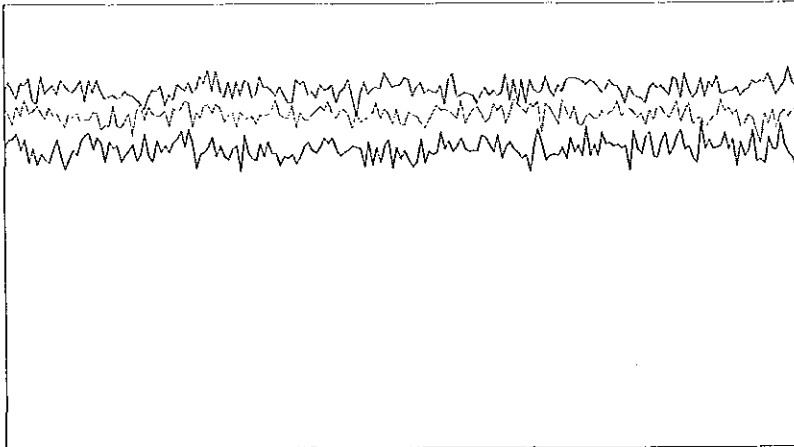
ICP-MS Instrument ID: ICPMSA Start Date: 08/24/2014 End Date: 08/27/2014

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element Y-89	Q	Element In-115	Q	Element Tb-159	Q	Element Bi-209	Q
CCV 680-346224/137	12:46	94		96		92		87		76	
CCB 680-346224/138	12:53	92		94		92		85		78	
CCV 680-346224/148	14:07	94		96		92		86		75	
CCB 680-346224/149	14:15	94		96		93		86		80	
CRI 680-346224/153	14:44	92		95		92		84		76	
CCV 680-346224/154	14:54	95		97		92		87		76	
CCB 680-346224/155	15:01	94		95		94		85		81	

141724100A

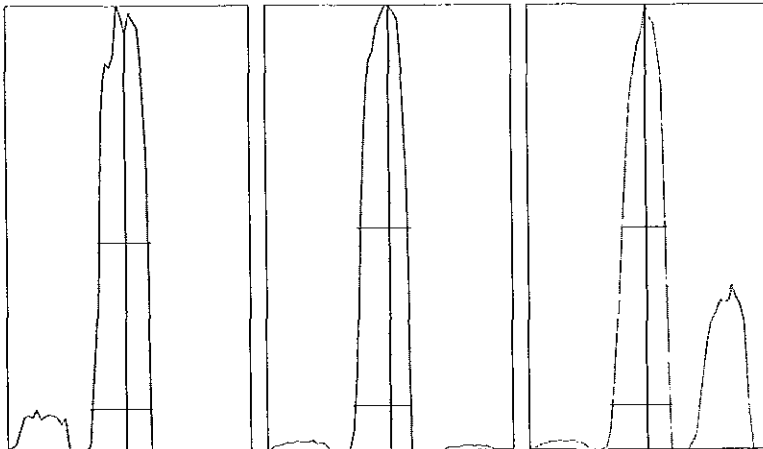
Tune Report

Tune File : babnorm.U
Comment :



Integration Time: 0.1000 sec
Sampling Period: 1.0200 sec
n: 200
Oxide: 156/140 0.782%
Doubly Charged: 70/140 3.559%

m/z	Range	Count	Mean	RSD%	Background
7	2,000	1332.0	1343.1	3.36	0.10
89	5,000	4071.0	4034.2	2.24	0.10
205	5,000	3721.0	3746.3	2.33	1.00
156/140	2	1.125%	0.861%	16.59	
70/140	5	3.289%	3.487%	11.14	
59	2,000	2129.0	2051.7	2.77	0.30
66	500	304.0	323.0	6.20	0.10
24	5,000	2700.0	2773.8	4.04	0.20
44	50,000	21324.0	22293.9	3.61	0.10



m/z:	7	89	205
Height:	1,301	4,038	3,869
Axis:	7.00	89.05	205.00
W-50%:	0.65	0.65	0.55
W-10%:	0.7500	0.700	0.7500

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec

Y axis : Linear

Tune Report

Tune File : babnorm.U
Comment :

Tuning Parameters

===Plasma Condition===

RF Power : 1500 W
RF Matching : 1.66 V
Smpl Depth : 8 mm
Torch-H : 0 mm
Torch-V : 0 mm
Carrier Gas : 0.9 L/min
Makeup Gas : 0.3 L/min
Optional Gas : --- %
Nebulizer Pump : 0.1 rps
Sample Pump : --- rps
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V
Extract 2 : -115 V
Omega Bias-ce : -20 V
Omega Lens-ce : -1.4 V
Cell Entrance : -30 V
QP Focus : 2 V
Cell Exit : -40 V

===Octopole Parameters===

OctP RF : 150 V
OctP Bias : -6 V

===Q-Pole Parameters===

AMU Gain : 133
AMU Offset : 120
Axis Gain : 1.0004
Axis Offset : -0.24
QP Bias : -3 V

===Detector Parameters===

Discriminator : 8 mV
Analog HV : 2060 V
Pulse HV : 1800 V

===Reaction Cell===

Reaction Mode : OFF
H2 Gas : 0 mL/min He Gas : 0 mL/min Optional Gas : --- %

Sensitivity

Tune File : babhe.U



Integration Time: 0.1000 sec
Sampling Period: 0.5100 sec
n: 46

m/z	Range	Count	Mean	RSD%
75	20	3.0	1.7	65.51
89	5,000	871.0	847.1	3.90
205	5,000	1982.0	2092.5	2.40
51/59	10	3.085%	4.057%	22.90
51	50	22.0	27.5	22.22
59	5,000	713.0	679.3	4.47

Tuning Parameters

===Plasma Condition===

RF Power : 1500 W
RF Matching : 1.66 V
Smpl Depth : 8 mm
Torch-H : 0 mm
Torch-V : 0 mm
Carrier Gas : 0.9 L/min
Makeup Gas : 0.3 L/min
Optional Gas : --- %
Nebulizer Pump : 0.1 rps
Sample Pump : --- rps
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V
Extract 2 : -115 V
Omega Bias-ce : -20 V
Omega Lens-ce : -1.4 V
Cell Entrance : -30 V
QP Focus : -8 V
Cell Exit : -40 V

===Q-Pole Parameters===

AMU Gain : 133
AMU Offset : 120
Axis Gain : 1.0004
Axis Offset : -0.24
QP Bias : -15 V

===Detector Parameters===

Discriminator : 8 mV
Analog HV : 2060 V
Pulse HV : 1800 V

===Octopole Parameters===

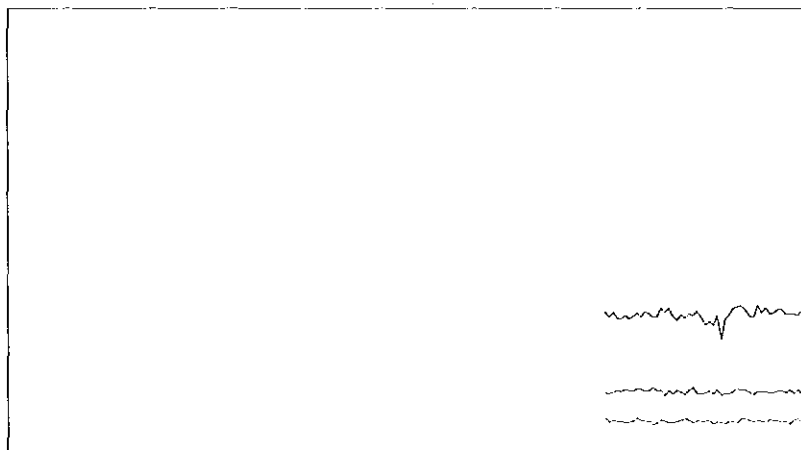
OctP RF : 190 V
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : ON
H2 Gas : 0 mL/min
He Gas : 4.2 mL/min
Optional Gas : --- %

Sensitivity

Tune File : babh2.U



Integration Time: 0.1000 sec
Sampling Period: 0.8200 sec
n: 51

m/z	Range	Count	Mean	RSD%
78	20	1.0	2.4	62.78
89	10,000	3143.0	3099.6	4.02
205	20,000	2832.0	2743.8	3.00
59	10,000	722.0	704.5	4.92
80	500	203.0	208.3	7.90
7	100	73.0	72.1	12.15
75	20	9.0	6.8	40.67
40	20,000	14496.0	14788.2	2.34

Tuning Parameters

===Plasma Condition===

RF Power : 1500 W
RF Matching : 1.66 V
Smpl Depth : 8 mm
Torch-H : 0 mm
Torch-V : 0 mm
Carrier Gas : 0.9 L/min
Makeup Gas : 0.3 L/min
Optional Gas : --- %
Nebulizer Pump : 0.1 rps
Sample Pump : --- rps
S/C Temp : 2 degC

===Ion Lenses===

Extract 1 : 0 V
Extract 2 : -115 V
Omega Bias-ce : -20 V
Omega Lens-ce : -1.4 V
Cell Entrance : -30 V
QP Focus : -11 V
Cell Exit : -40 V

===Q-Pole Parameters===

AMU Gain : 133
AMU Offset : 120
Axis Gain : 1.0004
Axis Offset : -0.24
QP Bias : -15 V

===Detector Parameters===

Discriminator : 8 mV
Analog HV : 2060 V
Pulse HV : 1800 V

===Octopole Parameters===

OctP RF : 190 V
OctP Bias : -18 V

===Reaction Cell===

Reaction Mode : ON
H2 Gas : 4.7 mL/min
He Gas : 0 mL/min
Optional Gas : --- %

P/A Factor Tuning Report

Acquired: Aug 24 2014 09:54 am

Mass [amu]	Element	P/A Factor
6	Li	0.059560
7	(Li)	0.063352
9	Be	0.068198
11	B	0.064735
23	Na	0.073575
24	Mg	0.077872
27	Al	0.079833
39	K	Sensitivity too high
45	Sc	0.080387
47	Ti	Sensitivity too low
51	V	0.083320
52	Cr	0.087433
55	Mn	0.089703
56	Fe	0.091021
59	Co	0.094699
60	Ni	0.097989
63	Cu	0.101315
66	Zn	0.101068
70	Ge	Sensitivity too low
72	Ge	Sensitivity too low
74	Ge	0.099719
75	As	0.097756
78	Se	Sensitivity too low
88	Sr	0.097415
89	Y	0.095693
95	Mo	0.096496
107	Ag	0.108628
111	Cd	0.109290
115	In	0.108540
118	Sn	0.108141
121	Sb	0.106971
137	Ba	0.107860
159	Tb	0.109954
166	Er	Sensitivity too low
202	Hg	Sensitivity too low
205	Tl	0.122666
206	(Pb)	0.122498
207	(Pb)	0.122448
208	Pb	0.121471
209	Bi	0.122233
232	Th	0.119613
238	U	0.119316

===Detector Parameters===

Discriminator: 8.0 mV
 Analog HV: 2060 V
 Pulse HV: 1800 V

200.8 QC Tune Report

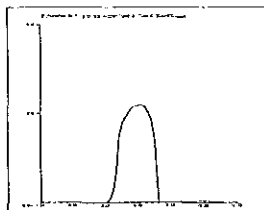
ICPMSA

C:\ICPCHEM\1\DATA\14H24J00.B\001TUNE.D

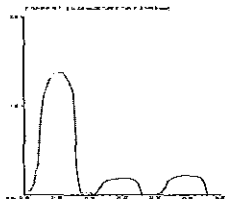
Data File: C:\ICPCHEM\1\DATA\14H24J00.B\001TUNE.D
Date Acquired: Aug 24 2014 09:59 am
Acq. Method: CLPTUNE.M
Operator: BR
Sample Name: 100 ppb tune check
Misc Info:
Vial Number: 1305
Current Method: C:\ICPCHEM\1\METHODS\CLPTUNE.M

RSD (%)

Element	Actual	Required	Flag	Rep1	Rep2	Rep3	Rep4	Rep5
9 Be	0.40	5.00		152954.61	153124.67	151892.73	152080.27	153150.83
24 Mg	0.58	5.00		736200.06	724692.81	732625.00	733146.69	730918.75
25 Mg	0.63	5.00		105927.07	104950.61	105416.32	104340.04	104459.12
26 Mg	0.53	5.00		123042.08	122322.99	122505.70	121370.64	121767.48
59 Co	0.43	5.00		1179044.40	1174331.60	1176951.00	1170024.60	1168511.90
113 In	0.29	5.00		139464.72	139459.11	138565.05	138758.75	139033.28
115 In	0.33	5.00		3075455.60	3090302.80	3092160.80	3084481.50	3068667.30
206 Pb	0.38	5.00		783953.63	787677.25	789735.94	789334.00	783391.25
207 Pb	0.61	5.00		651737.08	647139.63	653834.06	658058.63	651533.19
208 Pb	0.60	5.00		1553090.90	1557391.90	1574806.10	1571876.10	1567980.80



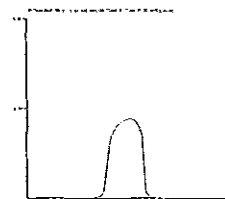
9 Be
Mass Calib.
Actual: 9.00
Required: 8.90 - 9.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:



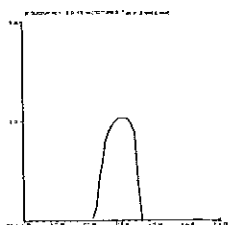
24 Mg
Mass Calib.
Actual: 24.05
Required: 23.90 - 24.10
Flag:
Peak Width at 10% height
Actual: 0.60
Required: 1.00
Flag:

25 Mg
Mass Calib.
Actual: 25.00
Required: 24.90 - 25.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:

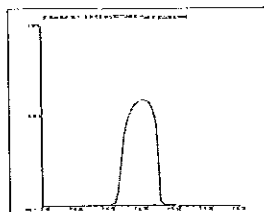
26 Mg
Mass Calib.
Actual: 26.00
Required: 25.90 - 26.10
Flag:
Peak Width at 10% height
Actual: 0.65
Required: 1.00
Flag:



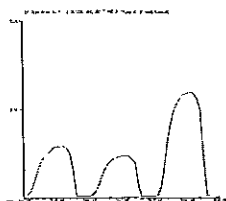
59 Co
Mass Calib.
Actual: 59.05
Required: 58.90 - 59.10
Flag:
Peak Width at 10% height
Actual: 0.55
Required: 1.00
Flag:



113 In
Mass Calib.
 Actual: 113.00
 Required: 112.90 - 113.10
 Flag:
Peak Width at 10% height
 Actual: 0.65
 Required: 0.90
 Flag:



115 In
Mass Calib.
 Actual: 115.05
 Required: 114.90 - 115.10
 Flag:
Peak Width at 10% height
 Actual: 0.60
 Required: 1.00
 Flag:



206 Pb
Mass Calib.
 Actual: 206.05
 Required: 205.90 - 206.10
 Flag:
Peak Width at 10% height
 Actual: 0.60
 Required: 1.00
 Flag:

207 Pb
Mass Calib.
 Actual: 207.00
 Required: 206.90 - 207.10
 Flag:
Peak Width at 10% height
 Actual: 0.65
 Required: 1.00
 Flag:

208 Pb
Mass Calib.
 Actual: 208.00
 Required: 207.90 - 208.10
 Flag:
Peak Width at 10% height
 Actual: 0.60
 Required: 1.00
 Flag:

Tune Result:

Pass

Calibration Blank QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\001CALB.D\001CALB.D#
 Date Acquired: Aug 24 2014 10:07 am
 Operator: BR
 Sample Name: CalBlk
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 20 2014 01:31 pm
 Sample Type: CalBlk
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	443824.59 P	875.00	0.20	442944.22	444694.16	443835.50
9 Be	24.45 P	10.18	41.64	33.33	26.67	13.33
11 B	4799.60 P	180.70	3.76	4817.38	4970.74	4610.67
23 Na	99238.70 P	1886.00	1.90	101415.43	98212.31	98088.36
24 Mg	3468.20 P	321.70	9.28	3723.80	3573.78	3107.02
27 Al	3836.06 P	117.90	3.07	3970.52	3787.18	3750.47
39 K	12676.78 P	122.90	0.97	12771.26	12537.83	12721.25
40 Ca	31390.05 P	497.30	1.58	31950.92	31216.52	31002.72
45 Sc	467813.50 P	30620.00	6.55	432464.19	484880.63	486095.69
45 Sc	P			56779.43	56446.22	57481.61
45 Sc	771449.50 A	2783.00	0.36	768451.88	773951.00	771945.50
47 Ti	123.34 P	25.17	20.41	96.67	126.67	146.67
51 V	225.56 P	13.10	5.81	228.89	211.11	236.67
52 Cr	355.56 P	12.22	3.44	367.78	343.34	355.56
55 Mn	2033.51 P	40.97	2.01	2003.51	2080.19	2016.83
56 Fe	13637.62 P	1082.00	7.93	14582.78	13872.20	12457.89
59 Co	221.12 P	13.88	6.28	210.01	236.68	216.67
60 Ni	46.67 P	5.09	10.91	41.11	47.78	51.11
63 Cu	468.53 P	27.09	5.78	488.90	437.79	478.90
66 Zn	783.38 P	78.82	10.06	856.71	793.37	700.04
70 Ge	P			73378.63	79981.92	78979.84
70 Ge	P			21530.49	21348.06	21349.18
70 Ge	P			115093.33	116659.19	115868.48
72 Ge	P			162526.27	163111.67	161927.56
74 Ge	154181.70 P	7613.00	4.94	145392.34	158713.47	158439.17
74 Ge	47289.91 P	163.20	0.35	47470.42	47152.79	47246.51
74 Ge	227929.70 P	474.80	0.21	228426.84	227480.91	227881.34
75 As	16.00 P	3.51	21.95	19.67	12.67	15.67
78 Se	24.56 P	5.09	20.74	29.00	19.00	25.67
88 Sr	368.35 P	287.60	78.08	153.34	256.68	695.04
89 Y	1323083.00 A	5429.00	0.41	1317503.60	1323396.30	1328349.00
95 Mo	332.23 P	13.47	4.05	346.68	330.01	320.01
107 Ag	130.00 P	10.00	7.69	140.00	120.00	130.00
111 Cd	13.26 P	8.82	66.51	9.92	23.26	6.60
115 In	1378905.00 A	8340.00	0.60	1373006.50	1388446.60	1375261.00
118 Sn	751.15 P	15.75	2.10	756.71	733.37	763.37
121 Sb	155.56 P	40.32	25.92	186.67	110.00	170.01
137 Ba	60.00 P	15.28	25.47	73.34	63.34	43.33
159 Tb	2045905.00 A	9209.00	0.45	2047109.10	2036154.40	2054453.80
166 Er	P			20.00	6.67	13.33
202 Hg	26.89 P	2.69	10.02	29.33	27.33	24.00
205 Tl	1890.17 P	139.10	7.36	1873.50	2036.86	1760.15
208 Pb	1397.85 P	100.30	7.18	1293.40	1406.74	1493.41
209 Bi	1421854.00 A	7150.00	0.50	1417330.10	1430096.90	1418134.10
232 Th	1266.76 P	35.12	2.77	1300.10	1270.09	1230.09
238 U	590.03 P	34.64	5.87	610.03	550.03	610.03

Calibration Blank QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\002CALB.D\002CALB.D#
 Date Acquired: Aug 24 2014 10:14 am
 Operator: BR
 Sample Name: CalBlk
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:12 am
 Sample Type: CalBlk
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	441277.59 P	1893.00	0.43	439106.13	442144.56	442582.19
9 Be	4.44 P	1.93	43.31	3.33	3.33	6.67
11 B	3721.56 P	91.70	2.46	3813.81	3630.43	3720.46
23 Na	98515.95 P	802.20	0.81	99243.91	98648.09	97655.87
24 Mg	2671.38 P	360.50	13.50	2743.61	2990.31	2280.20
27 Al	3080.34 P	173.30	5.63	3183.70	3177.01	2880.29
39 K	12731.32 P	17.32	0.14	12711.32	12741.32	12741.32
40 Ca	29893.11 P	372.10	1.24	29707.40	30321.49	29650.45
45 Sc	477101.91 M	24000.00	5.03	496330.06	450200.16	484775.31
45 Sc	P			56954.39	57257.48	58666.30
45 Sc	761798.19 A	4534.00	0.60	758266.75	760216.75	766911.00
47 Ti	128.89 P	13.88	10.77	113.34	140.01	133.34
51 V	225.19 P	0.64	0.28	225.56	225.56	224.45
52 Cr	358.16 P	18.34	5.12	363.34	337.78	373.34
55 Mn	1496.78 P	38.45	2.57	1456.76	1500.11	1533.45
56 Fe	11012.49 P	830.90	7.55	11493.88	11490.57	10053.01
59 Co	77.78 P	18.36	23.61	56.67	90.00	86.67
60 Ni	47.78 P	5.09	10.66	42.22	52.22	48.89
63 Cu	426.68 P	12.37	2.90	437.79	428.90	413.34
66 Zn	616.69 P	31.80	5.16	646.69	620.03	583.36
70 Ge	P			78524.22	77277.25	80381.49
70 Ge	P			21113.37	21875.36	21506.00
70 Ge	P			115767.58	115267.19	115056.63
72 Ge	P			159890.19	159927.97	161695.36
74 Ge	157414.59 P	4026.00	2.56	157329.72	153432.00	161481.98
74 Ge	47466.30 P	249.20	0.53	47563.95	47651.92	47183.02
74 Ge	224698.00 P	175.10	0.08	224899.77	224609.11	224585.17
75 As	13.11 P	3.37	25.72	11.33	11.00	17.00
78 Se	20.44 P	0.38	1.88	20.67	20.00	20.67
88 Sr	232.44 P	189.20	81.40	450.65	113.34	133.34
89 Y	1307240.00 A	6509.00	0.50	1309776.60	1299845.40	1312099.10
95 Mo	200.01 P	23.33	11.67	183.34	190.01	226.67
107 Ag	86.67 P	21.86	25.22	66.67	83.34	110.00
111 Cd	3.29 P	0.01	0.16	3.29	3.29	3.28
115 In	1377094.00 A	7612.00	0.55	1376055.00	1385172.10	1370054.60
118 Sn	642.25 P	28.35	4.41	670.03	643.36	613.36
121 Sb	92.23 P	15.03	16.30	76.67	93.34	106.67
137 Ba	48.89 P	17.11	35.00	30.00	63.34	53.34
159 Tb	2038078.00 A	6229.00	0.31	2032474.10	2036974.80	2044785.60
166 Er	P			10.00	3.33	13.33
202 Hg	36.67 P	0.00	0.00	36.67	36.67	36.67
205 Tl	508.91 P	11.71	2.30	496.69	520.03	510.02
208 Pb	1065.60 P	31.51	2.96	1090.05	1076.72	1030.05
209 Bi	1407558.00 A	11160.00	0.79	1405480.50	1419615.60	1397577.80
232 Th	837.83 P	28.35	3.38	826.72	870.05	816.72
238 U	168.90 P	8.39	4.97	176.68	160.01	170.01

Calibration Blank QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\003CALB.D\003CALB.D#
 Date Acquired: Aug 24 2014 10:22 am
 Operator: BR
 Sample Name: CalBlk
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:19 am
 Sample Type: CalBlk
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	438545.31 P	2011.00	0.46	439745.94	439666.50	436223.34
9 Be	4.44 P	1.93	43.31	3.33	6.67	3.33
11 B	3254.80 P	93.44	2.87	3350.38	3250.36	3163.67
23 Na	98732.76 P	1498.00	1.52	100396.77	97492.20	98309.31
24 Mg	2799.18 P	275.40	9.84	3100.36	2560.25	2736.94
27 Al	3270.37 P	107.50	3.29	3393.72	3197.03	3220.35
39 K	13137.15 P	185.90	1.42	13351.75	13034.82	13024.89
40 Ca	30273.77 P	495.10	1.64	30802.34	30198.04	29820.93
45 Sc	486214.00 P	1487.00	0.31	487565.94	484620.81	486455.31
45 Sc	P			57546.26	57230.80	70012.53
45 Sc	751098.38 M	5524.00	0.74	744723.94	754474.38	754096.88
47 Ti	116.68 P	26.05	22.33	146.70	103.34	100.00
51 V	229.26 P	23.13	10.09	247.78	236.67	203.34
52 Cr	338.52 P	40.74	12.04	315.56	314.45	385.56
55 Mn	1530.11 P	50.45	3.30	1546.78	1570.11	1473.44
56 Fe	10725.65 P	762.50	7.11	11553.91	10052.99	10570.06
59 Co	91.11 P	10.18	11.17	80.00	93.34	100.00
60 Ni	57.04 P	2.57	4.50	55.56	55.56	60.00
63 Cu	444.82 P	37.60	8.45	403.34	454.45	476.68
66 Zn	583.36 P	15.27	2.62	586.70	566.69	596.69
70 Ge	P			80745.40	80646.97	81120.16
70 Ge	P			21403.64	21473.77	24897.48
70 Ge	P			113727.89	113724.61	114505.94
72 Ge	P			159126.84	159681.36	160327.70
74 Ge	159651.30 P	790.80	0.50	159177.41	159212.36	160564.28
74 Ge	50018.47 P	4563.00	9.12	47415.90	47352.33	55287.20
74 Ge	223065.70 P	1217.00	0.55	223887.59	221667.47	223642.00
75 As	14.67 P	0.88	6.01	14.33	15.67	14.00
78 Se	22.00 P	2.03	9.21	19.67	23.33	23.00
88 Sr	160.01 P	14.53	9.08	150.01	176.67	153.34
89 Y	1297752.00 A	10960.00	0.84	1287736.40	1296066.50	1309453.60
95 Mo	172.23 P	47.30	27.46	223.34	130.00	163.34
107 Ag	105.56 P	8.39	7.95	113.34	106.67	96.67
111 Cd	5.52 P	5.09	92.19	9.95	6.64	-0.04
115 In	1367183.00 A	7202.00	0.53	1360071.00	1374471.30	1367007.10
118 Sn	618.92 P	16.78	2.71	636.70	616.70	603.36
121 Sb	81.11 P	13.88	17.11	70.00	96.67	76.67
137 Ba	54.45 P	1.92	3.53	53.34	53.34	56.67
159 Tb	2023235.00 A	16530.00	0.82	2006367.30	2023923.30	2039412.60
166 Er	P			6.67	16.67	16.67
202 Hg	28.78 P	11.18	38.85	23.00	41.67	21.67
205 Tl	383.35 P	30.55	7.97	376.68	416.69	356.68
208 Pb	974.49 P	68.34	7.01	933.38	936.71	1053.38
209 Bi	1404559.00 A	7427.00	0.53	1397631.90	1403645.60	1412400.80
232 Th	595.59 P	35.33	5.93	590.03	563.36	633.37
238 U	133.34 P	13.33	10.00	120.00	133.34	146.67

Calibration Blank QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\004CALB.D\004CALB.D#
 Date Acquired: Aug 24 2014 10:29 am
 Operator: BR
 Sample Name: CALBLK
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:26 am
 Sample Type: CalBlk
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	442220.91 P	3460.00	0.78	441762.19	445887.50	439013.00
9 Be	3.33 P	3.33	99.99	3.33	6.67	0.00
11 B	3006.97 P	5.77	0.19	3013.63	3003.64	3003.63
23 Na	98932.65 P	2018.00	2.04	101080.10	98641.45	97076.38
24 Mg	2235.75 P	353.70	15.82	2480.23	2396.87	1830.14
27 Al	2660.26 P	230.80	8.68	2756.94	2826.95	2396.90
39 K	13299.46 P	73.83	0.56	13214.99	13331.67	13351.71
40 Ca	28359.66 P	824.80	2.91	28692.35	28966.16	27420.48
45 Sc	489267.31 P	18550.00	3.79	487057.41	508820.09	471924.59
45 Sc	P			57804.89	57985.17	58675.29
45 Sc	761898.31 A	2725.00	0.36	761056.44	759693.31	764945.06
47 Ti	77.78 P	15.40	19.80	86.67	60.00	86.67
51 V	245.93 P	6.12	2.49	240.00	245.56	252.23
52 Cr	324.82 P	21.21	6.53	348.90	308.89	316.67
55 Mn	1414.54 P	95.25	6.73	1346.76	1523.44	1373.43
56 Fe	8273.19 P	927.40	11.21	9119.14	8418.81	7281.62
59 Co	65.56 P	11.71	17.86	53.33	66.67	76.67
60 Ni	40.74 P	11.19	27.47	42.22	51.11	28.89
63 Cu	418.90 P	16.44	3.92	407.79	411.12	437.79
66 Zn	662.25 P	102.40	15.46	676.70	756.71	553.36
70 Ge	P			80461.86	82779.79	76799.25
70 Ge	P			21589.48	21414.81	21265.74
70 Ge	P			114133.64	113677.77	114622.90
72 Ge	P			160372.06	159463.16	159201.52
74 Ge	158830.00 P	6321.00	3.98	159756.83	164636.31	152096.98
74 Ge	47855.05 P	328.90	0.69	47896.98	47507.13	48161.03
74 Ge	225016.50 P	1159.00	0.52	224083.17	226313.95	224652.39
75 As	13.11 P	1.17	8.93	13.00	12.00	14.33
78 Se	23.56 P	4.03	17.12	25.00	19.00	26.67
88 Sr	130.00 P	15.28	11.75	143.34	133.34	113.34
89 Y	1298210.00 A	10900.00	0.84	1285676.00	1305493.50	1303460.00
95 Mo	113.34 P	6.67	5.88	113.34	120.00	106.67
107 Ag	82.22 P	15.03	18.28	83.34	96.67	66.67
111 Cd	4.42 P	1.92	43.51	3.31	6.64	3.31
115 In	1373026.00 A	9076.00	0.66	1382471.00	1372235.40	1364370.30
118 Sn	621.14 P	136.40	21.96	580.03	510.02	773.37
121 Sb	52.22 P	10.18	19.49	43.33	50.00	63.34
137 Ba	32.22 P	1.93	5.97	33.33	33.33	30.00
159 Tb	2038041.00 A	12980.00	0.64	2026738.30	2035167.90	2052218.10
166 Er	P			3.33	10.00	10.00
202 Hg	24.00 P	2.03	8.45	26.33	23.00	22.67
205 Tl	215.56 P	19.53	9.06	223.34	230.01	193.34
208 Pb	933.37 P	64.29	6.89	960.04	860.04	980.04
209 Bi	1407461.00 A	4486.00	0.32	1409621.00	1402304.40	1410459.10
232 Th	448.91 P	10.72	2.39	453.36	456.69	436.69
238 U	46.67 P	5.77	12.37	53.34	43.33	43.33

Calibration Blank QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#
 Date Acquired: Aug 24 2014 10:37 am
 Operator: BR
 Sample Name: CALBLK
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:34 am
 Sample Type: CalBlk
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	442436.91 P	1577.00	0.36	441952.34	444199.06	441159.09
9 Be	1.11 P	1.93	173.25	0.00	3.33	0.00
11 B	2692.48 P	70.11	2.60	2760.26	2696.93	2620.25
23 Na	96763.85 P	465.00	0.48	97073.07	96229.13	96989.34
24 Mg	1111.17 P	250.50	22.54	870.04	1093.39	1370.09
27 Al	1689.02 P	433.90	25.69	1216.74	1780.13	2070.17
39 K	13201.60 P	212.90	1.61	13018.16	13435.06	13151.58
40 Ca	26213.16 P	633.90	2.42	25504.45	26408.98	26726.04
45 Sc	456299.69 P	36910.00	8.09	413761.53	475308.81	479828.78
45 Sc	P			58170.41	58179.35	58544.70
45 Sc	765061.19 A	4101.00	0.54	769312.81	761130.44	764740.44
47 Ti	85.56 P	13.47	15.74	83.34	100.00	73.34
51 V	245.93 P	12.39	5.04	241.12	236.67	260.00
52 Cr	321.49 P	38.66	12.03	305.56	293.34	365.56
55 Mn	1485.66 P	22.69	1.53	1493.44	1503.44	1460.10
56 Fe	4522.92 P	686.00	15.17	3910.52	4394.00	5264.23
59 Co	70.00 P	3.33	4.76	70.00	66.67	73.34
60 Ni	52.59 P	1.70	3.23	51.11	52.22	54.45
63 Cu	408.16 P	34.07	8.35	372.23	412.23	440.01
66 Zn	634.47 P	51.03	8.04	693.37	606.69	603.36
70 Ge	P			71817.24	79994.10	80682.70
70 Ge	P			21685.11	21899.80	22108.98
70 Ge	P			115103.52	114086.51	114050.20
72 Ge	P			162199.33	159947.33	160114.63
74 Ge	153441.30 P	10150.00	6.61	141746.73	158565.80	160011.31
74 Ge	47804.94 P	730.40	1.53	46964.57	48163.33	48286.92
74 Ge	224564.80 P	566.60	0.25	224802.55	224973.83	223918.05
75 As	15.56 P	2.55	16.37	13.33	18.33	15.00
78 Se	20.67 P	3.53	17.07	22.00	23.33	16.67
88 Sr	160.01 P	15.28	9.55	173.34	143.34	163.34
89 Y	1302847.00 A	10790.00	0.83	1315155.10	1295011.80	1298375.60
95 Mo	118.89 P	6.94	5.84	126.67	113.34	116.67
107 Ag	94.45 P	10.18	10.78	103.34	83.34	96.67
111 Cd	6.64 P	3.33	50.18	9.97	3.31	6.64
115 In	1366178.00 A	4306.00	0.32	1368597.10	1368729.40	1361206.30
118 Sn	694.48 P	81.47	11.73	676.70	623.37	783.38
121 Sb	41.11 P	1.93	4.68	43.33	40.00	40.00
137 Ba	41.11 P	20.37	49.55	23.33	36.67	63.34
159 Tb	2052818.00 A	12540.00	0.61	2039115.40	2063715.60	2055622.90
166 Er	P			20.00	13.33	20.00
202 Hg	25.78 P	6.88	26.70	22.67	33.67	21.00
205 Tl	177.78 P	17.10	9.62	196.67	173.34	163.34
208 Pb	2007.14 P	1970.00	98.15	893.38	846.70	4281.33
209 Bi	1405469.00 A	11840.00	0.84	1417352.60	1393681.60	1405371.30
232 Th	382.24 P	39.77	10.40	370.02	350.02	426.69
238 U	31.11 P	10.18	32.72	33.33	20.00	40.00

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\006CAL.S.D\006CAL.S.D#
 Date Acquired: Aug 24 2014 10:44 am
 Operator: BR
 Sample Name: RL
 Misc Info: MS_STD1_RL 00074
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:41 am
 Sample Type: CalStd
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	443996.69 P	1908.00	0.43	445050.16	445145.34	441794.63
9 Be	216.67 P	17.64	8.14	230.01	223.34	196.67
11 B	33588.28 P	597.30	1.78	33215.49	33272.14	34277.23
23 Na	306077.91 P	1611.00	0.53	306234.81	304374.06	307624.88
24 Mg	152881.09 P	766.20	0.50	152352.58	152530.80	153759.80
27 Al	36840.25 P	575.00	1.56	36308.18	37450.32	36762.25
39 K	32471.75 P	429.10	1.32	32194.59	32254.64	32966.02
40 Ca	435833.41 P	2294.00	0.53	437034.16	437277.81	433188.38
45 Sc	482849.09 P	1064.00	0.22	481675.75	483121.13	483750.53
45 Sc	P			57245.27	58439.97	58242.74
45 Sc	762799.69 A	5753.00	0.75	769441.88	759558.56	759398.63
47 Ti	1313.42 P	15.27	1.16	1300.08	1310.09	1330.08
51 V	2975.82 P	35.28	1.19	2989.16	3002.49	2935.81
52 Cr	3860.43 P	65.40	1.69	3839.31	3933.78	3808.20
55 Mn	22872.32 P	105.30	0.46	22751.10	22924.58	22941.28
56 Fe	216538.41 P	1649.00	0.76	215405.56	218430.88	215778.88
59 Co	1586.78 P	93.34	5.88	1626.78	1653.45	1480.10
60 Ni	1385.25 P	79.90	5.77	1403.40	1297.84	1454.51
63 Cu	3956.39 P	34.15	0.86	3992.68	3951.59	3924.89
66 Zn	9695.04 P	342.50	3.53	9996.35	9322.61	9766.17
70 Ge	P			79972.93	80679.49	80853.41
70 Ge	P			21587.24	21708.48	21886.51
70 Ge	P			114976.47	114717.64	114536.23
72 Ge	P			159703.81	160091.36	159167.03
74 Ge	158926.91 P	699.50	0.44	158758.30	158327.25	159695.34
74 Ge	47595.13 P	195.00	0.41	47588.46	47403.50	47793.45
74 Ge	224930.91 P	1495.00	0.66	224303.38	226637.73	223851.61
75 As	204.22 P	2.41	1.18	207.00	202.67	203.00
78 Se	164.89 P	9.40	5.70	172.33	154.33	168.00
88 Sr	5202.02 P	65.19	1.25	5147.57	5274.25	5184.24
89 Y	1304078.00 A	8523.00	0.65	1298375.50	1299982.30	1313875.50
95 Mo	4270.64 P	162.00	3.79	4167.27	4187.28	4457.37
107 Ag	2532.48 P	40.74	1.61	2496.91	2576.93	2523.59
111 Cd	270.18 P	13.84	5.12	265.76	259.09	285.70
115 In	1382870.00 A	14800.00	1.07	1375596.30	1399893.60	1373119.10
118 Sn	8999.26 P	379.40	4.22	8752.42	9436.16	8809.20
121 Sb	9546.22 P	93.93	0.98	9649.61	9466.15	9522.91
137 Ba	4101.72 P	114.80	2.80	4027.26	4043.93	4233.97
159 Tb	2038094.00 A	6157.00	0.30	2033991.40	2035117.00	2045173.80
166 Er	P			10.00	16.67	3.33
202 Hg	608.68 P	8.89	1.46	611.68	598.68	615.68
205 Tl	6017.99 P	78.00	1.30	5971.31	5974.62	6108.04
208 Pb	12736.86 P	150.10	1.18	12685.77	12619.02	12905.80
209 Bi	1396651.00 A	15980.00	1.14	1384121.50	1391187.90	1414644.40
232 Th	18105.54 P	323.70	1.79	18114.41	17777.45	18424.75
238 U	22362.47 P	322.20	1.44	22734.15	22189.97	22163.29

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	443996.72	0.43	442436.88	100.4	60 - 125		445050.16	445145.34	441794.63
45 Sc	482849.16	0.22	456299.72	105.8	60 - 125		481675.75	483121.13	483750.53
45 Sc	762799.69	0.75	765061.25	99.7	60 - 125		769441.88	759558.56	759398.63
74 Ge	158926.95	0.44	153441.28	103.6	60 - 125		158758.30	158327.25	159695.34
74 Ge	47595.13	0.41	47804.94	99.6	60 - 125		47588.46	47403.50	47793.45
74 Ge	224930.91	0.66	224564.78	100.2	60 - 125		224303.38	226637.73	223851.61
89 Y	1304077.80	0.65	1302847.50	100.1	60 - 125		1298375.50	1299982.30	1313875.50
115 In	1382869.60	1.07	1366177.60	101.2	60 - 125		1375596.30	1399893.60	1373119.10
159 Tb	2038093.90	0.30	2052817.90	99.3	60 - 125		2033991.40	2035117.00	2045173.80
209 Bi	1396651.40	1.14	1405468.50	99.4	60 - 125		1384121.50	1391187.90	1414644.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\007CAL5.D\007CAL5.D#
 Date Acquired: Aug 24 2014 10:51 am
 Operator: BR
 Sample Name: 10/1000
 Misc Info:
 Vial Number: 4502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:49 am
 Sample Type: CalStd
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	449329.81 P	2025.00	0.45	447301.03	451350.63	449337.69
9 Be	18950.61 P	302.40	1.60	19243.09	18639.20	18969.56
11 B	32384.01 P	89.57	0.28	32480.78	32303.99	32367.26
23 Na	3979690.00 A	12450.00	0.31	3987142.50	3965315.00	3986612.50
24 Mg	2754681.00 A	6569.00	0.24	2748515.80	2753938.30	2761590.50
27 Al	337582.19 P	1742.00	0.52	339050.56	338039.19	335656.88
39 K	378137.59 P	4710.00	1.25	373231.50	378556.97	382624.22
40 Ca	7463186.00 A	22330.00	0.30	7449405.00	7451201.50	7488950.00
45 Sc	490463.41 P	2267.00	0.46	488175.41	492708.84	490505.84
45 Sc	P			58900.20	59468.90	60636.91
45 Sc	776998.00 A	274.60	0.04	777270.00	776720.94	777003.06
47 Ti	11536.06 P	215.10	1.86	11297.00	11713.98	11597.19
51 V	28076.65 P	260.80	0.93	27807.35	28094.46	28328.14
52 Cr	34313.66 P	303.10	0.88	34028.71	34280.23	34632.06
55 Mn	2031970.00 A	13570.00	0.67	2026459.80	2047429.40	2022022.50
56 Fe	9870761.00 A	17230.00	0.17	9857420.00	9864647.00	9890216.00
59 Co	148108.91 P	205.50	0.14	148345.28	148009.20	147972.20
60 Ni	13053.94 P	62.85	0.48	13055.78	13115.84	12990.19
63 Cu	35108.86 P	190.10	0.54	35006.45	34991.97	35328.16
66 Zn	22208.31 P	42.86	0.19	22177.16	22190.58	22257.19
70 Ge	P			81554.34	81654.63	81975.14
70 Ge	P			21694.01	22482.75	22681.89
70 Ge	P			116367.86	116414.96	119098.64
72 Ge	P			160968.61	163938.67	163999.73
74 Ge	162447.80 P	991.50	0.61	161312.88	163145.42	162885.23
74 Ge	48558.09 P	469.90	0.97	48220.18	48359.42	49094.67
74 Ge	229301.70 P	1881.00	0.82	231459.34	228003.59	228442.31
75 As	3765.62 P	19.53	0.52	3746.73	3785.73	3764.40
78 Se	2983.81 P	24.39	0.82	2973.92	3011.59	2965.92
88 Sr	246570.20 P	1306.00	0.53	247852.98	246614.58	245243.06
89 Y	1327591.00 A	8391.00	0.63	1318219.10	1330144.60	1334408.00
95 Mo	40420.92 P	564.70	1.40	40473.27	39831.83	40957.68
107 Ag	112485.20 P	146.50	0.13	112649.42	112438.38	112367.82
111 Cd	25227.70 P	349.10	1.38	25583.80	25213.35	24885.94
115 In	1394493.00 A	10760.00	0.77	1406251.30	1385147.90	1392080.90
118 Sn	78095.89 P	499.00	0.64	77921.95	77707.17	78658.54
121 Sb	91567.39 P	696.70	0.76	90764.34	92010.98	91926.87
137 Ba	40720.43 P	498.20	1.22	40578.99	41274.02	40308.27
159 Tb	2074162.00 A	11900.00	0.57	2060963.30	2077460.00	2084064.40
166 Er	P			3.33	6.67	6.67
202 Hg	1737.66 P	4.77	0.27	1741.77	1738.77	1732.43
205 Tl	55915.73 P	396.60	0.71	56019.38	56250.24	55477.58
208 Pb	383565.41 P	1261.00	0.33	384726.47	383745.66	382224.16
209 Bi	1414027.00 A	12580.00	0.89	1422373.90	1399562.10	1420143.50
232 Th	428461.00 P	2215.00	0.52	430838.56	426455.56	428088.69
238 U	425715.31 P	2047.00	0.48	423418.94	426380.34	427346.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	449329.78	0.45	442436.88	101.6	60 - 125		447301.03	451350.63	449337.69
45 Sc	490463.38	0.46	456299.72	107.5	60 - 125		488175.41	492708.84	490505.84
45 Sc	776998.00	0.04	765061.25	101.6	60 - 125		777270.00	776720.94	777003.06
74 Ge	162447.86	0.61	153441.28	105.9	60 - 125		161312.88	163145.42	162885.23
74 Ge	48558.09	0.97	47804.94	101.6	60 - 125		48220.18	48359.42	49094.67
74 Ge	229301.73	0.82	224564.78	102.1	60 - 125		231459.34	228003.59	228442.31
89 Y	1327590.60	0.63	1302847.50	101.9	60 - 125		1318219.10	1330144.60	1334408.00
115 In	1394493.40	0.77	1366177.60	102.1	60 - 125		1406251.30	1385147.90	1392080.90
159 Tb	2074162.50	0.57	2052817.90	101.0	60 - 125		2060963.30	2077460.00	2084064.40
209 Bi	1414026.50	0.89	1405468.50	100.6	60 - 125		1422373.90	1399562.10	1420143.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\008CALC.D\008CALC.D#
 Date Acquired: Aug 24 2014 10:59 am
 Operator: BR
 Sample Name: 25/2500
 Misc Info:
 Vial Number: 4503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 10:56 am
 Sample Type: CalStd
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	446847.50 P	13720.00	3.07	431029.31	453956.56	455556.59
9 Be	47970.18 P	666.50	1.39	48496.84	48192.93	47220.77
11 B	77382.26 P	592.50	0.77	78062.82	77102.57	76981.38
23 Na	9800579.00 A	47660.00	0.49	9789414.00	9852827.00	9759497.00
24 Mg	6848988.00 A	38230.00	0.56	6859625.50	6880769.00	6806568.50
27 Al	826762.69 A	3611.00	0.44	830781.94	825715.94	823790.19
39 K	927165.63 A	5344.00	0.58	929081.44	931288.19	921127.25
40 Ca	18736440.00 A	134100.00	0.72	18886404.00	18695004.00	18627918.00
45 Sc	492899.59 P	1925.00	0.39	491139.63	492603.53	494955.59
45 Sc	P			60383.86	61675.83	61488.54
45 Sc	768036.38 A	37500.00	4.88	724915.38	786162.38	793031.56
47 Ti	29274.43 P	170.90	0.58	29453.50	29256.68	29113.11
51 V	70179.35 P	478.00	0.68	70712.45	69789.02	70036.59
52 Cr	85689.30 P	645.10	0.75	85997.99	84947.84	86122.08
55 Mn	5019858.00 A	21670.00	0.43	5028167.00	5036146.00	4995262.00
56 Fe	24552280.00 A	68570.00	0.28	24519840.00	24505942.00	24631056.00
59 Co	373901.50 P	1453.00	0.39	374424.38	375020.59	372259.69
60 Ni	32246.90 P	152.00	0.47	32320.36	32348.21	32072.15
63 Cu	86777.63 P	88.35	0.10	86676.06	86820.12	86036.70
66 Zn	54612.74 P	1147.00	2.10	54451.37	55831.90	53554.94
70 Ge	P			82797.63	83565.47	83339.90
70 Ge	P			22258.03	22470.53	22967.79
70 Ge	P			114145.70	117964.81	118745.92
72 Ge	P			156494.56	166232.89	164316.00
74 Ge	162843.80 P	1335.00	0.82	161303.72	163665.41	163562.19
74 Ge	49499.79 P	502.40	1.02	49115.78	49315.23	50068.34
74 Ge	229026.41 P	7277.00	3.18	220624.08	233291.77	233163.20
75 As	9366.41 P	65.61	0.70	9344.73	9440.11	9314.38
78 Se	7342.05 P	39.69	0.54	7341.16	7302.81	7382.17
88 Sr	616139.13 P	3822.00	0.62	620551.31	614001.94	613863.88
89 Y	1298761.00 A	49590.00	3.82	1241600.80	1324346.00	1330336.50
95 Mo	101565.60 P	557.90	0.55	101468.48	101062.56	102165.61
107 Ag	280496.41 P	1544.00	0.55	280316.66	279049.94	282122.63
111 Cd	62669.53 P	125.70	0.20	62814.24	62587.10	62607.25
115 In	1367280.00 A	64700.00	4.73	1292859.00	1398834.10	1410147.60
118 Sn	195108.59 P	1068.00	0.55	196324.11	194681.45	194320.28
121 Sb	230532.80 P	717.60	0.31	231313.69	230382.34	229902.39
137 Ba	101321.80 P	545.70	0.54	101588.99	101682.52	100693.98
159 Tb	2023609.00 A	87370.00	4.32	1922754.80	2071665.40	2076408.10
166 Er	P			13.33	16.67	0.00
202 Hg	4271.36 P	38.41	0.90	4228.24	4283.92	4301.93
205 Tl	138970.41 P	1345.00	0.97	137719.09	140393.30	138798.98
208 Pb	951645.69 P	5922.00	0.62	946194.75	957946.75	950795.63
209 Bi	1371614.00 A	52190.00	3.81	1311451.80	1398591.90	1404799.10
232 Th	1066657.00 P	4078.00	0.38	1069058.40	1068965.40	1061948.30
238 U	1068737.00 P	3879.00	0.36	1073038.40	1065504.60	1067668.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	446847.50	3.07	442436.88	101.0	60 - 125		431029.31	453956.56	455556.59
45 Sc	492899.59	0.39	456299.72	108.0	60 - 125		491139.63	492603.53	494955.59
45 Sc	768036.44	4.88	765061.25	100.4	60 - 125		724915.38	786162.38	793031.56
74 Ge	162843.78	0.82	153441.28	106.1	60 - 125		161303.72	163665.41	163562.19
74 Ge	49499.79	1.02	47804.94	103.5	60 - 125		49115.78	49315.23	50068.34
74 Ge	229026.34	3.18	224564.78	102.0	60 - 125		220624.08	233291.77	233163.20
89 Y	1298761.00	3.82	1302847.50	99.7	60 - 125		1241600.80	1324346.00	1330336.50
115 In	1367280.30	4.73	1366177.60	100.1	60 - 125		1292859.00	1398834.10	1410147.60
159 Tb	2023609.40	4.32	2052817.90	98.6	60 - 125		1922754.80	2071665.40	2076408.10
209 Bi	1371614.30	3.81	1405468.50	97.6	60 - 125		1311451.80	1398591.90	1404799.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALC.D\005CALC.D#

--- :Element Failures --- :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\009CAL.S.D\009CAL.S.D#
 Date Acquired: Aug 24 2014 11:06 am
 Operator: BR
 Sample Name: 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 11:03 am
 Sample Type: CalStd
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	447938.41 P	3844.00	0.86	448598.38	443806.56	451410.09
9 Be	97558.99 P	27.75	0.03	97578.40	97527.21	97571.37
11 B	156799.50 P	2381.00	1.52	155213.94	155647.53	159537.00
23 Na	19860420.00 A	242000.00	1.22	19919552.00	20067392.00	19594326.00
24 Mg	13841780.00 A	149900.00	1.08	13880311.00	13968630.00	13676396.00
27 Al	1660549.00 A	18590.00	1.12	1676147.00	1665523.90	1639977.60
39 K	1871619.00 A	28070.00	1.50	1840258.90	1880218.50	1894379.50
40 Ca	37910040.00 A	342100.00	0.90	37968540.00	38219144.00	37542448.00
45 Sc	522486.09 M	43150.00	8.26	497154.44	497995.69	572308.25
45 Sc	P			61977.89	62961.15	62550.90
45 Sc	793179.50 A	10020.00	1.26	785937.88	788980.38	804620.06
47 Ti	59684.06 P	348.20	0.58	60083.01	59528.06	59441.10
51 V	145107.91 P	891.50	0.61	144308.98	144945.16	146069.58
52 Cr	175547.80 P	484.30	0.28	175328.20	175212.36	176103.00
55 Mn	10175830.00 A	12660.00	0.12	10174665.00	10189025.00	10163787.00
56 Fe	49832740.00 A	495900.00	1.00	49796884.00	50345612.00	49355732.00
59 Co	757591.50 P	1015.00	0.13	758750.63	756859.13	757164.69
60 Ni	66039.72 P	173.50	0.26	66112.55	66164.97	65841.64
63 Cu	177473.91 P	1040.00	0.59	176314.13	177785.02	178322.42
66 Zn	111101.40 P	1049.00	0.94	110003.75	111207.63	112092.81
70 Ge	P			84283.36	84852.46	94928.21
70 Ge	P			22882.13	23320.47	23486.25
70 Ge	P			120816.43	119889.77	120702.33
72 Ge	P			165411.92	165900.39	165401.41
74 Ge	172334.70 P	12300.00	7.14	165053.13	165413.17	186537.83
74 Ge	49341.94 P	214.30	0.43	49094.58	49472.33	49458.92
74 Ge	230910.80 P	810.00	0.35	230200.13	231792.75	230739.42
75 As	19103.73 P	136.00	0.71	18969.82	19099.63	19241.76
78 Se	14735.63 P	330.40	2.24	14988.17	14857.06	14361.66
88 Sr	1308772.00 A	5124.00	0.39	1314687.60	1305697.60	1305931.50
89 Y	1337309.00 A	5945.00	0.44	1330641.00	1342056.00	1339230.10
95 Mo	209360.50 P	658.60	0.31	208641.75	209935.17	209504.63
107 Ag	573914.13 P	832.90	0.15	574855.50	573272.94	573614.00
111 Cd	126972.10 P	1043.00	0.82	126905.26	125964.55	128046.66
115 In	1383794.00 A	9386.00	0.68	1391230.90	1373247.50	1386903.40
118 Sn	397449.41 P	735.50	0.19	396624.22	397687.84	398036.13
121 Sb	473056.19 P	2142.00	0.45	471178.84	472599.69	475390.00
137 Ba	206759.41 P	849.80	0.41	207292.36	205779.38	207206.38
159 Tb	2048585.00 A	24350.00	1.19	2039448.80	2030121.00	2076184.40
166 Er	P			13.33	16.67	13.33
202 Hg	8544.41 P	65.51	0.77	8471.26	8564.32	8597.66
205 Tl	281780.00 P	1049.00	0.37	280571.94	282455.72	282312.38
208 Pb	1931702.00 P	12420.00	0.64	1941041.60	1917605.10	1936458.10
209 Bi	1385197.00 A	15090.00	1.09	1402612.60	1376845.30	1376132.30
232 Th	2238216.00 A	11710.00	0.52	2235559.30	2251021.30	2228067.50
238 U	2224676.00 A	9280.00	0.42	2228496.80	2231436.50	2214095.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	447938.38	0.86	442436.88	101.2	60 - 125		448598.38	443806.56	451410.09
45 Sc	522486.13	8.26	456299.72	114.5	60 - 125		497154.44	497995.69	572308.25
45 Sc	793179.44	1.26	765061.25	103.7	60 - 125		785937.88	788980.38	804620.06
74 Ge	172334.72	7.14	153441.28	112.3	60 - 125		165053.13	165413.17	186537.83
74 Ge	49341.94	0.43	47804.94	103.2	60 - 125		49094.58	49472.33	49458.92
74 Ge	230910.78	0.35	224564.78	102.8	60 - 125		230200.13	231792.75	230739.42
89 Y	1337309.00	0.44	1302847.50	102.6	60 - 125		1330641.00	1342056.00	1339230.10
115 In	1383793.90	0.68	1366177.60	101.3	60 - 125		1391230.90	1373247.50	1386903.40
159 Tb	2048584.80	1.19	2052817.90	99.8	60 - 125		2039448.80	2030121.00	2076184.40
209 Bi	1385196.80	1.09	1405468.50	98.6	60 - 125		1402612.60	1376845.30	1376132.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Calibration Standard QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\010CAL.S.D\010CAL.S.D#
 Date Acquired: Aug 24 2014 11:13 am
 Operator: BR
 Sample Name: 100/10000
 Misc Info: MS_CALSTD_00183
 Vial Number: 4505
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 11:11 am
 Sample Type: CalStd
 Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean	SD	RSD(%)	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	433888.59 P	203.10	0.05	433655.50	434027.75	433982.53
9 Be	187485.30 P	646.30	0.34	186784.19	187614.42	188057.28
11 B	296665.81 P	360.70	0.12	296924.94	296818.66	296253.81
23 Na	38352460.00 A	29950.00	0.08	38344524.00	38385588.00	38327280.00
24 Mg	26816700.00 A	37440.00	0.14	26811960.00	26781854.00	26856282.00
27 Al	3173083.00 A	11680.00	0.37	3162323.80	3171419.30	3185504.50
39 K	3522600.00 A	24340.00	0.69	3494763.30	3533145.30	3539893.30
40 Ca	73809352.00 A	247700.00	0.34	73526120.00	73985424.00	73916504.00
45 Sc	496597.50 P	2020.00	0.41	494709.84	498727.63	496355.09
45 Sc	P			63409.17	64591.03	64506.24
45 Sc	803126.63 A	5431.00	0.68	796931.13	805382.88	807065.69
47 Ti	115474.20 P	1308.00	1.13	114613.98	116979.14	114829.38
51 V	280930.41 P	2928.00	1.04	277583.53	282191.66	283015.91
52 Cr	339990.19 P	1107.00	0.33	338804.28	340168.94	340997.25
55 Mn	19518320.00 A	51200.00	0.26	19492074.00	19577328.00	19485576.00
56 Fe	96073640.00 A	176400.00	0.18	96256048.00	95903880.00	96060992.00
59 Co	1486462.00 A	2108.00	0.14	1484059.80	1487323.50	1488002.30
60 Ni	126597.50 P	1246.00	0.98	126016.63	125747.42	128028.30
63 Cu	336858.09 P	1744.00	0.52	335289.00	336548.81	338736.41
66 Zn	209082.59 P	2419.00	1.16	209795.25	211065.09	206387.45
70 Ge	P			84952.76	84896.00	85855.91
70 Ge	P			23794.48	23744.35	23815.52
70 Ge	P			121843.20	121645.32	121299.79
72 Ge	P			164574.02	165425.03	163750.98
74 Ge	163109.41 P	487.50	0.30	163619.64	163060.00	162648.50
74 Ge	49007.38 P	468.30	0.96	48820.56	48661.27	49540.29
74 Ge	229788.00 P	1437.00	0.63	231122.55	228266.72	229974.70
75 As	37110.88 P	321.50	0.87	36947.77	36903.68	37481.19
78 Se	28588.22 P	195.80	0.68	28635.73	28755.92	28373.00
88 Sr	2458190.00 A	15000.00	0.61	2466239.30	2440882.30	2467447.30
89 Y	1322595.00 A	13370.00	1.01	1337112.10	1310778.80	1319894.80
95 Mo	405096.19 P	2233.00	0.55	402917.97	407379.94	404990.78
107 Ag	1130057.00 A	2206.00	0.20	1129376.50	1132524.00	1128272.10
111 Cd	242708.41 P	526.50	0.22	242228.44	242625.36	243271.50
115 In	1367843.00 A	7232.00	0.53	1359901.60	1374051.30	1369575.00
118 Sn	763203.81 P	2513.00	0.33	763989.94	765229.94	760391.44
121 Sb	907792.00 P	5193.00	0.57	912611.31	902292.25	908472.25
137 Ba	398959.69 P	2284.00	0.57	400183.91	396324.69	400370.72
159 Tb	2037491.00 A	19380.00	0.95	2034823.50	2019576.40	2058071.60
166 Er	P			13.33	10.00	30.00
202 Hg	16290.40 P	52.62	0.32	16313.31	16327.68	16230.22
205 Tl	537274.19 P	1659.00	0.31	538284.25	535359.31	538179.13
208 Pb	3700671.00 A	4567.00	0.12	3704409.50	3695580.80	3702024.00
209 Bi	1349846.00 A	5613.00	0.42	1345716.50	1347585.40	1356236.90
232 Th	4204425.00 A	30010.00	0.71	4238798.50	4191036.50	4183441.50
238 U	4187771.00 A	29810.00	0.71	4202921.50	4153425.80	4206966.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Req(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	433888.59	0.05	442436.88	98.1	60 - 125		433655.50	434027.75	433982.53
45 Sc	496597.50	0.41	456299.72	108.8	60 - 125		494709.84	498727.63	496355.09
45 Sc	803126.63	0.68	765061.25	105.0	60 - 125		796931.13	805382.88	807065.69
74 Ge	163109.39	0.30	153441.28	106.3	60 - 125		163619.64	163060.00	162648.50
74 Ge	49007.38	0.96	47804.94	102.5	60 - 125		48820.56	48661.27	49540.29
74 Ge	229787.98	0.63	224564.78	102.3	60 - 125		231122.55	228266.72	229974.70
89 Y	1322595.30	1.01	1302847.50	101.5	60 - 125		1337112.10	1310778.80	1319894.80
115 In	1367842.60	0.53	1366177.60	100.1	60 - 125		1359901.60	1374051.30	1369575.00
159 Tb	2037490.60	0.95	2052817.90	99.3	60 - 125		2034823.50	2019576.40	2058071.60
209 Bi	1349846.30	0.42	1405468.50	96.0	60 - 125		1345716.50	1347585.40	1356236.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

--- :Element Failures --- :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Blank QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\011_BLK.D\011_BLK.D#
 Date Acquired: Aug 24 2014 11:21 am
 Operator: BR
 Sample Name: BLANK
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal Update: Aug 24 2014 11:18 am
 Sample Type: Blank
 Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.01 ug/l	52.55	#####	
11 B	3.20 ug/l	5.05	#####	
23 Na	0.23 ug/l	1784.70	#####	
24 Mg	0.85 ug/l	18.62	#####	
27 Al	0.31 ug/l	42.98	#####	
39 K	0.76 ug/l	41.06	#####	
40 Ca	0.57 ug/l	103.52	#####	
47 Ti	-0.02 ug/l	9.66	#####	
51 V	0.00 ug/l	383.39	#####	
52 Cr	0.00 ug/l	187.84	#####	
55 Mn	0.05 ug/l	9.28	#####	
56 Fe	1.32 ug/l	18.79	#####	
59 Co	0.01 ug/l	15.43	#####	
60 Ni	0.01 ug/l	54.14	#####	
63 Cu	0.01 ug/l	83.97	#####	
66 Zn	-0.06 ug/l	23.20	#####	
75 As	0.01 ug/l	117.87	#####	
78 Se	0.05 ug/l	37.56	#####	
88 Sr	0.00 ug/l	30.63	#####	
95 Mo	0.10 ug/l	1.95	#####	
107 Ag	0.00 ug/l	14.05	#####	
111 Cd	0.01 ug/l	42.04	#####	
118 Sn	0.12 ug/l	11.05	#####	
121 Sb	0.04 ug/l	1.53	#####	
137 Ba	0.00 ug/l	73.13	#####	
202 Hg	0.02 ug/l	19.72	#####	
205 Tl	0.00 ug/l	40.93	#####	
208 Pb	-0.01 ug/l	16.74	#####	
232 Th	0.11 ug/l	3.06	#####	
238 U	0.01 ug/l	13.87	#####	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	449990.50	0.64	442436.88	101.7	60 - 125		
45 Sc	490663.25	15.80	456299.72	107.5	60 - 125		
45 Sc	793146.75	0.97	765061.25	103.7	60 - 125		
74 Ge	164091.72	12.29	153441.28	106.9	60 - 125		
74 Ge	48763.02	0.53	47804.94	102.0	60 - 125		
74 Ge	231028.44	0.71	224564.78	102.9	60 - 125		
89 Y	1346092.80	0.31	1302847.50	103.3	60 - 125		
115 In	1419642.90	0.89	1366177.60	103.9	60 - 125		
159 Tb	2065138.80	0.63	2052817.90	100.6	60 - 125		
209 Bi	1411171.10	0.61	1405468.50	100.4	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\012_ICV.D\012_ICV.D#
 Date Acquired: Aug 24 2014 11:28 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: icv
 Misc Info: MS_ICVwk_00204
 Vial Number: 4506
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	40.9 ug/l	0.57	40.00	89.5 - 110		81609.14	81628.99	80303.77
11 B	83.26 ug/l	1.19	80.00	89.5 - 110		134866.55	131553.73	130737.66
23 Na	4164 ug/l	0.14	4000.00	89.5 - 110		16068670.00	16227520.00	16172703.00
24 Mg	4092 ug/l	0.56	4000.00	89.5 - 110		11056263.00	11046342.00	11086526.00
27 Al	425.3 ug/l	0.58	400.00	89.5 - 110		1360537.90	1364899.80	1373375.30
39 K	4345 ug/l	11.33	4000.00	89.5 - 110		1509531.30	1811645.60	1541769.80
40 Ca	4252 ug/l	0.05	4000.00	89.5 - 110		31483992.00	31746706.00	31597200.00
47 Ti	40.05 ug/l	1.13	40.00	89.5 - 110		47784.73	46979.31	48108.89
51 V	40.16 ug/l	0.77	40.00	89.5 - 110		115126.58	115502.32	117111.05
52 Cr	40.6 ug/l	0.86	40.00	89.5 - 110		141013.77	141714.70	143372.33
55 Mn	420 ug/l	1.08	400.00	89.5 - 110		8340210.00	8350196.50	8495008.00
56 Fe	4182 ug/l	0.35	4000.00	89.5 - 110		40410784.00	40581400.00	40629488.00
59 Co	42.98 ug/l	1.06	40.00	89.5 - 110		647061.25	652683.00	651728.94
60 Ni	42.11 ug/l	0.96	40.00	89.5 - 110		54421.68	54514.11	54699.04
63 Cu	41.09 ug/l	1.05	40.00	89.5 - 110		145563.06	146398.61	146924.70
66 Zn	41.38 ug/l	1.04	40.00	89.5 - 110		91068.03	91681.09	92271.04
75 As	41.69 ug/l	1.29	40.00	89.5 - 110		15749.78	15823.50	15767.46
78 Se	42.78 ug/l	1.12	40.00	89.5 - 110		12368.87	12222.11	12335.18
88 Sr	40.38 ug/l	0.75	40.00	89.5 - 110		1064054.00	1055089.80	1071867.50
95 Mo	42.43 ug/l	0.64	40.00	89.5 - 110		178663.70	176428.84	176425.05
107 Ag	40.8 ug/l	0.22	40.00	89.5 - 110		478260.31	476407.22	473683.53
111 Cd	40.35 ug/l	0.87	40.00	89.5 - 110		100908.13	102436.80	101850.07
118 Sn	40.72 ug/l	0.55	40.00	89.5 - 110		324590.31	322056.50	323359.16
121 Sb	41.1 ug/l	0.73	40.00	89.5 - 110		392314.31	388091.44	390997.88
137 Ba	40.68 ug/l	0.70	40.00	89.5 - 110		172516.36	170169.11	170101.36
202 Hg	2.082 ug/l	1.47	2.00	89.5 - 110		7208.32	6969.20	7004.55
205 Tl	8.049 ug/l	0.70	8.00	89.5 - 110		226157.50	226047.75	228640.39
208 Pb	40.84 ug/l	0.40	40.00	89.5 - 110		1574362.30	1562652.00	1567897.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	458820.78	0.52	442436.88	103.7	60 - 125		461235.94	458739.38	456486.97
45 Sc	501082.78	0.46	456299.72	109.8	60 - 125		498909.38	503537.81	500801.22
45 Sc	806226.94	1.34	765061.25	105.4	60 - 125		817652.19	796144.88	804883.63
74 Ge	165591.94	0.59	153441.28	107.9	60 - 125		164471.83	166196.78	166107.20
74 Ge	49746.78	1.09	47804.94	104.1	60 - 125		49786.56	49186.00	50267.77
74 Ge	233216.64	0.65	224564.78	103.9	60 - 125		234427.44	231500.52	233721.92
89 Y	1355658.30	1.43	1302847.50	104.1	60 - 125		1364144.50	1333440.90	1369389.10
115 In	1409273.00	0.37	1366177.60	103.2	60 - 125		1412086.40	1412408.30	1403324.50
159 Tb	2080896.90	0.69	2052817.90	101.4	60 - 125		2090398.30	2064386.60	2087905.80
209 Bi	1410649.10	0.58	1405468.50	100.4	60 - 125		1410070.00	1419151.00	1402726.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\013_CCB.D\013_CCB.D#
 Date Acquired: Aug 24 2014 11:36 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002256	0.002256	ug/l	86.17	#VALUE!		3.33	3.33	10.00
11 B #3	2.162	2.162	ug/l	4.52	#VALUE!		5927.73	5737.64	5751.03
23 Na #1	-0.1314	-0.1314	ug/l	28.39	#VALUE!		104324.26	103741.00	104206.87
24 Mg #1	0.6156	0.6156	ug/l	8.28	#VALUE!		2980.31	2763.61	2710.28
27 Al #1	0.2926	0.2926	ug/l	30.87	#VALUE!		3020.56	2433.56	2706.93
39 K #2	1.778	1.778	ug/l	25.35	#VALUE!		13918.78	14269.09	14469.19
40 Ca #1	0.4599	0.4599	ug/l	8.81	#VALUE!		32094.56	31356.71	31460.06
47 Ti #3	-0.02779	-0.02779	ug/l	52.25	#VALUE!		96.67	63.34	90.01
51 V #2	0.009365	0.009365	ug/l	58.49	#VALUE!		243.34	278.89	286.67
52 Cr #2	-0.01305	-0.01305	ug/l	16.81	#VALUE!		293.34	310.01	301.12
55 Mn #3	0.02955	0.02955	ug/l	3.28	#VALUE!		2116.85	2103.51	2133.51
56 Fe #1	1.04	1.04	ug/l	7.58	#VALUE!		15650.44	14279.14	14262.50
59 Co #3	0.003185	0.003185	ug/l	30.93	#VALUE!		113.34	110.00	136.67
60 Ni #2	0.01184	0.01184	ug/l	48.89	#VALUE!		71.11	70.00	61.11
63 Cu #2	-0.01116	-0.01116	ug/l	76.85	#VALUE!		436.68	408.90	407.79
66 Zn #3	-0.07547	-0.07547	ug/l	10.93	#VALUE!		520.02	480.02	490.02
75 As #2	0.003071	0.003071	ug/l	205.73	#VALUE!		18.67	16.00	15.33
78 Se #1	0.03436	0.03436	ug/l	18.14	#VALUE!		30.67	31.33	34.00
88 Sr #3	0.001732	0.001732	ug/l	44.02	#VALUE!		226.68	186.67	213.34
95 Mo #3	0.03475	0.03475	ug/l	10.47	#VALUE!		266.68	283.34	256.68
107 Ag #3	-0.002248	-0.002248	ug/l	56.81	#VALUE!		120.00	90.00	103.34
111 Cd #3	0.003825	0.003825	ug/l	123.22	#VALUE!		3.27	19.94	26.61
118 Sn #3	0.0586	0.0586	ug/l	4.00	#VALUE!		1240.08	1210.08	1216.75
121 Sb #3	0.01462	0.01462	ug/l	3.48	#VALUE!		180.01	186.67	180.01
137 Ba #3	0.002119	0.002119	ug/l	70.55	#VALUE!		50.00	43.33	56.67
202 Hg #3	0.003254	0.003254	ug/l	22.61	#VALUE!		141.67	142.67	139.33
205 Tl #3	0.0006267	0.0006267	ug/l	87.78	#VALUE!		233.34	230.01	206.67
208 Pb #3	-0.01417	-0.01417	ug/l	10.56	#VALUE!		940.04	890.04	1013.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	451758.28	0.80	442436.88	102.1	60 - 125		447881.03	452308.13	455085.66
45 Sc #1	490865.69	0.36	456299.72	107.6	60 - 125		492672.03	489128.97	490796.00
45 Sc #3	786347.56	1.48	765061.25	102.8	60 - 125		787617.19	774155.00	797270.50
74 Ge #1	164022.66	0.13	153441.28	106.9	60 - 125		163867.94	164270.94	163929.08
74 Ge #2	47970.36	3.07	47804.94	100.3	60 - 125		46354.50	48322.60	49233.96
74 Ge #3	231516.84	0.57	224564.78	103.1	60 - 125		233026.66	230674.70	230849.16
89 Y #3	1335294.00	0.31	1302847.50	102.5	60 - 125		1339922.10	1331757.30	1334202.90
115 In #3	1416425.90	0.73	1366177.60	103.7	60 - 125		1413004.80	1408284.40	1427988.80
159 Tb #3	2068834.80	0.53	2052817.90	100.8	60 - 125		2069726.40	2057452.30	2079325.40
209 Bi #3	1416057.00	0.58	1405468.50	100.8	60 - 125		1423604.40	1417181.30	1407385.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\014_QCS.D\014_QCS.D#
 Date Acquired: Aug 24 2014 11:43 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info: MS_STD1_RL 00074
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.11 ug/l	3.55	0.10 69.5 - 130	
11 B	21.37 ug/l	0.88	20.00 69.5 - 130	
23 Na	54.96 ug/l	1.16	50.00 69.5 - 130	
24 Mg	58.21 ug/l	0.51	50.00 69.5 - 130	
27 Al	11.44 ug/l	0.66	10.00 69.5 - 130	
39 K	53.20 ug/l	3.19	50.00 69.5 - 130	
40 Ca	57.55 ug/l	0.39	50.00 69.5 - 130	
47 Ti	1.08 ug/l	2.66	1.00 69.5 - 130	
51 V	1.02 ug/l	1.92	1.00 69.5 - 130	
52 Cr	1.02 ug/l	0.79	1.00 69.5 - 130	
55 Mn	1.12 ug/l	1.60	1.00 69.5 - 130	
56 Fe	23.06 ug/l	0.74	20.00 69.5 - 130	
59 Co	0.11 ug/l	6.60	0.10 69.5 - 130	
60 Ni	1.10 ug/l	2.28	1.00 69.5 - 130	
63 Cu	1.02 ug/l	0.30	1.00 69.5 - 130	
66 Zn	4.26 ug/l	1.14	4.00 69.5 - 130	
75 As	0.51 ug/l	4.90	0.50 69.5 - 130	
78 Se	0.54 ug/l	8.15	0.50 69.5 - 130	
88 Sr	0.19 ug/l	4.81	0.20 69.5 - 130	
95 Mo	1.01 ug/l	3.35	1.00 69.5 - 130	
107 Ag	0.21 ug/l	2.83	0.20 69.5 - 130	
111 Cd	0.09 ug/l	5.14	0.10 69.5 - 130	
118 Sn	1.11 ug/l	0.63	1.00 69.5 - 130	
121 Sb	1.01 ug/l	1.85	1.00 69.5 - 130	
137 Ba	1.00 ug/l	1.93	1.00 69.5 - 130	
202 Hg	0.17 ug/l	5.69	0.16 69.5 - 130	
205 Tl	0.20 ug/l	0.78	0.20 69.5 - 130	
208 Pb	0.30 ug/l	1.46	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	450169.38	0.28	442436.88	101.7	60 - 125		
45 Sc	489352.31	0.40	456299.72	107.2	60 - 125		
45 Sc	779839.06	0.41	765061.25	101.9	60 - 125		
74 Ge	163235.05	0.43	153441.28	106.4	60 - 125		
74 Ge	48820.24	0.23	47804.94	102.1	60 - 125		
74 Ge	229666.27	0.40	224564.78	102.3	60 - 125		
89 Y	1341840.60	0.45	1302847.50	103.0	60 - 125		
115 In	1410041.50	0.95	1366177.60	103.2	60 - 125		
159 Tb	2090336.40	0.72	2052817.90	101.8	60 - 125		
209 Bi	1434012.00	0.43	1405468.50	102.0	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\015_CCV.D\015_CCV.D#
 Date Acquired: Aug 24 2014 11:50 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info: MS_CCVepi_00182
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.29 ug/l	1.14	50.00	89.5 - 110		96871.04	96100.71	96908.13
11 B	101.6 ug/l	0.42	100.00	89.5 - 110		155496.36	156302.00	155647.28
23 Na	5192 ug/l	0.41	5000.00	89.5 - 110		19993964.00	19957726.00	19930430.00
24 Mg	5164 ug/l	0.68	5000.00	89.5 - 110		13925360.00	13825580.00	13809766.00
27 Al	523.7 ug/l	1.01	500.00	89.5 - 110		1656202.30	1666774.80	1684710.60
39 K	5024 ug/l	5.63	5000.00	89.5 - 110		1815350.40	1846426.60	1873545.10
40 Ca	5145 ug/l	0.76	5000.00	89.5 - 110		38012444.00	37772088.00	38034892.00
47 Ti	50.64 ug/l	1.03	50.00	89.5 - 110		59721.88	58879.52	59668.82
51 V	50.46 ug/l	5.42	50.00	89.5 - 110		141687.66	143796.36	144655.34
52 Cr	50.28 ug/l	6.12	50.00	89.5 - 110		170147.16	175146.88	173971.05
55 Mn	514 ug/l	0.53	500.00	89.5 - 110		10189454.00	10188442.00	10242280.00
56 Fe	5229 ug/l	0.34	5000.00	89.5 - 110		50099504.00	50410664.00	50377664.00
59 Co	50.15 ug/l	0.56	50.00	89.5 - 110		759391.31	751630.06	751411.25
60 Ni	50.97 ug/l	6.13	50.00	89.5 - 110		63784.66	65669.95	65538.35
63 Cu	49.81 ug/l	5.58	50.00	89.5 - 110		172577.78	175737.75	175275.06
66 Zn	50.16 ug/l	0.32	50.00	89.5 - 110		110302.20	110852.58	109691.99
75 As	50.59 ug/l	5.79	50.00	89.5 - 110		18543.74	18957.13	19057.24
78 Se	52.11 ug/l	0.65	50.00	89.5 - 110		14903.43	14942.79	15012.18
88 Sr	49.78 ug/l	1.67	50.00	89.5 - 110		1308965.10	1298515.30	1308565.50
95 Mo	50.89 ug/l	0.74	50.00	89.5 - 110		211356.52	210272.88	210491.86
107 Ag	49.31 ug/l	0.91	50.00	89.5 - 110		568509.25	568790.94	574634.81
111 Cd	50.92 ug/l	0.69	50.00	89.5 - 110		127372.16	127036.69	127513.70
118 Sn	50.72 ug/l	0.30	50.00	89.5 - 110		397612.91	400358.09	399591.91
121 Sb	50.1 ug/l	0.36	50.00	89.5 - 110		471237.50	472777.59	471933.59
137 Ba	50.09 ug/l	0.35	50.00	89.5 - 110		207912.05	209163.88	208951.06
202 Hg	2.535 ug/l	0.78	2.50	89.5 - 110		8586.99	8526.29	8651.36
205 Tl	10.01 ug/l	0.36	10.00	89.5 - 110		281917.19	283259.00	282982.09
208 Pb	50.39 ug/l	0.76	50.00	89.5 - 110		1943472.00	1932105.00	1940289.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	444196.81	0.67	442436.88	100.4	60 - 125		442736.09	447625.94	442228.31
45 Sc	497219.94	0.37	456299.72	109.0	60 - 125		496222.75	499364.81	496072.28
45 Sc	795969.50	0.24	765061.25	104.0	60 - 125		795063.88	798181.94	794662.75
74 Ge	165196.64	0.40	153441.28	107.7	60 - 125		165023.98	165918.41	164647.50
74 Ge	49071.41	4.66	47804.94	102.6	60 - 125		51347.49	46772.07	49094.65
74 Ge	231704.03	0.23	224564.78	103.2	60 - 125		231923.44	232097.08	231091.61
89 Y	1349786.10	1.31	1302847.50	103.6	60 - 125		1353472.10	1365292.00	1330594.40
115 In	1397506.80	0.51	1366177.60	102.3	60 - 125		1392422.50	1405622.90	1394474.90
159 Tb	2085306.90	0.56	2052817.90	101.6	60 - 125		2072361.40	2088345.00	2095214.10
209 Bi	1399937.00	0.73	1405468.50	99.6	60 - 125		1410623.40	1390175.40	1399012.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\016_CCB.D\016_CCB.D#
 Date Acquired: Aug 24 2014 11:58 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	-1.41E-005	-1.41E-005	ug/l	6940.30	#VALUE!		0.00	0.00	3.33
11 B #3	2.186	2.186	ug/l	6.16	#VALUE!		5697.65	5981.07	5660.97
23 Na #1	-0.6915	-0.6915	ug/l	36.44	#VALUE!		99592.48	100490.23	101147.03
24 Mg #1	-0.1382	-0.1382	ug/l	12.43	#VALUE!		820.04	850.04	756.70
27 Al #1	-0.1801	-0.1801	ug/l	17.97	#VALUE!		1310.08	1116.73	1216.74
39 K #2	-0.0459	-0.0459	ug/l	762.31	#VALUE!		13668.69	13778.71	13738.73
40 Ca #1	-0.1914	-0.1914	ug/l	18.10	#VALUE!		26726.18	26398.97	26328.85
47 Ti #3	-0.03933	-0.03933	ug/l	18.54	#VALUE!		73.34	56.67	73.34
51 V #2	0.01482	0.01482	ug/l	13.00	#VALUE!		282.23	290.01	291.12
52 Cr #2	-0.01727	-0.01727	ug/l	13.23	#VALUE!		287.78	283.34	301.12
55 Mn #3	-0.002696	-0.002696	ug/l	56.45	#VALUE!		1396.76	1446.76	1496.77
56 Fe #1	0.2591	0.2591	ug/l	9.73	#VALUE!		7441.74	7014.86	7148.24
59 Co #3	-0.0004315	-0.0004315	ug/l	356.66	#VALUE!		66.67	40.00	86.67
60 Ni #2	0.0002618	0.0002618	ug/l	1089.40	#VALUE!		50.00	56.67	54.45
63 Cu #2	-0.01	-0.01	ug/l	160.90	#VALUE!		486.68	372.23	423.34
66 Zn #3	-0.08709	-0.08709	ug/l	19.80	#VALUE!		490.02	420.02	473.35
75 As #2	0.0006274	0.0006274	ug/l	897.35	#VALUE!		14.00	18.00	16.00
78 Se #1	0.02903	0.02903	ug/l	48.98	#VALUE!		32.00	33.00	25.67
88 Sr #3	-0.00245	-0.00245	ug/l	35.80	#VALUE!		73.34	106.67	116.67
95 Mo #3	0.04545	0.04545	ug/l	21.76	#VALUE!		330.01	320.01	263.34
107 Ag #3	0.0002832	0.0002832	ug/l	791.67	#VALUE!		130.01	153.34	106.67
111 Cd #3	0.001321	0.001321	ug/l	273.05	#VALUE!		-0.07	16.60	13.28
118 Sn #3	0.08822	0.08822	ug/l	13.93	#VALUE!		1493.45	1416.77	1336.76
121 Sb #3	0.0207	0.0207	ug/l	4.87	#VALUE!		230.01	240.01	230.01
137 Ba #3	0.001911	0.001911	ug/l	96.08	#VALUE!		46.67	40.00	56.67
202 Hg #3	0.006123	0.006123	ug/l	44.39	#VALUE!		150.33	138.33	159.34
205 Tl #3	-0.003871	-0.003871	ug/l	17.36	#VALUE!		86.67	83.34	120.00
208 Pb #3	-0.01839	-0.01839	ug/l	3.75	#VALUE!		800.04	763.37	773.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	447002.03	2.05	442436.88	101.0	60 - 125		437131.56	448588.94	455285.63
45 Sc #1	483332.38	0.41	456299.72	105.9	60 - 125		482708.25	485532.13	481756.75
45 Sc #3	761619.94	2.41	765061.25	99.6	60 - 125		776475.38	741151.56	767232.81
74 Ge #1	162633.92	0.30	153441.28	106.0	60 - 125		163052.11	162086.52	162763.13
74 Ge #2	48528.34	0.61	47804.94	101.5	60 - 125		48621.18	48194.51	48769.34
74 Ge #3	226566.17	1.57	224564.78	100.9	60 - 125		223879.11	225210.25	230609.16
89 Y #3	1315637.90	1.44	1302847.50	101.0	60 - 125		1316676.50	1296175.80	1334061.80
115 In #3	1375958.30	1.75	1366177.60	100.7	60 - 125		1371742.80	1354305.30	1401826.80
159 Tb #3	2048971.00	1.56	2052817.90	99.8	60 - 125		2026958.30	2034273.80	2085680.80
209 Bi #3	1420707.40	1.56	1405468.50	101.1	60 - 125		1427781.00	1395835.40	1438505.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\017ICSA.D\017ICSA.D#
 Date Acquired: Aug 24 2014 12:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.01188 ug/l	64.92	---	
11 B	1.727 ug/l	4.44	---	
23 Na	99600 ug/l	0.75	1.20	
24 Mg	98560 ug/l	0.46	1.20	
27 Al	98580 ug/l	0.47	1.20	
39 K	100600 ug/l	0.49	1.20	
40 Ca	102600 ug/l	0.24	1.20	
47 Ti	2016 ug/l	1.97	1.20	
51 V	0.05506 ug/l	7.74	---	
52 Cr	1.31 ug/l	1.62	---	
55 Mn	0.4128 ug/l	2.84	---	
56 Fe	97160 ug/l	0.50	1.20	
59 Co	0.09467 ug/l	2.25	---	
60 Ni	0.2041 ug/l	13.04	---	
63 Cu	0.5623 ug/l	2.44	---	
66 Zn	2.066 ug/l	2.57	---	
75 As	0.1227 ug/l	4.52	---	
78 Se	0.07599 ug/l	7.71	---	
88 Sr	0.6295 ug/l	1.84	---	
95 Mo	2094 ug/l	0.77	1.20	
107 Ag	0.01889 ug/l	15.55	---	
111 Cd	0.6421 ug/l	2.73	---	
118 Sn	0.08765 ug/l	3.77	---	
121 Sb	0.03751 ug/l	10.57	---	
137 Ba	0.09885 ug/l	9.02	---	
202 Hg	0.006751 ug/l	22.41	---	
205 Tl	-0.003343 ug/l	17.55	---	
208 Pb	0.1583 ug/l	2.27	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	432295.66	0.50	442436.88	97.7	60 - 125		
45 Sc	497505.78	0.50	456299.72	109.0	60 - 125		
45 Sc	796048.13	0.71	765061.25	104.1	60 - 125		
74 Ge	155468.52	1.09	153441.28	101.3	60 - 125		
74 Ge	46445.16	0.95	47804.94	97.2	60 - 125		
74 Ge	220011.95	0.72	224564.78	98.0	60 - 125		
89 Y	1328314.30	0.93	1302847.50	102.0	60 - 125		
115 In	1312470.00	1.08	1366177.60	96.1	60 - 125		
159 Tb	2008278.30	0.21	2052817.90	97.8	60 - 125		
209 Bi	1198429.40	1.99	1405468.50	85.3	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\018ICSB.D\018ICSB.D#
 Date Acquired: Aug 24 2014 12:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
9 Be	0.01 ug/l	91.06	---	##### - #####	
11 B	1.11 ug/l	2.38	---	##### - #####	
23 Na	99560.00 ug/l	0.52	100000.00	80 - 120	
24 Mg	98500.00 ug/l	0.83	100000.00	80 - 120	
27 Al	97940.00 ug/l	0.38	100000.00	80 - 120	
39 K	99800.00 ug/l	0.83	100000.00	80 - 120	
40 Ca	102800.00 ug/l	0.55	100000.00	80 - 120	
47 Ti	2027.00 ug/l	0.74	2000.00	80 - 120	
51 V	0.04 ug/l	9.62	---	##### - #####	
52 Cr	22.16 ug/l	0.64	20.00	80 - 120	
55 Mn	22.01 ug/l	0.93	20.00	80 - 120	
56 Fe	97760.00 ug/l	0.39	100000.00	80 - 120	
59 Co	20.94 ug/l	0.17	20.00	80 - 120	
60 Ni	20.35 ug/l	0.69	20.00	80 - 120	
63 Cu	19.24 ug/l	0.49	20.00	80 - 120	
66 Zn	21.45 ug/l	0.69	20.00	80 - 120	
75 As	21.12 ug/l	1.18	20.00	80 - 120	
78 Se	0.05 ug/l	20.00	---	##### - #####	
88 Sr	0.62 ug/l	3.55	---	##### - #####	
95 Mo	2064.00 ug/l	1.08	2000.00	80 - 120	
107 Ag	18.23 ug/l	1.09	20.00	80 - 120	
111 Cd	19.76 ug/l	0.51	20.00	80 - 120	
118 Sn	0.10 ug/l	7.53	---	##### - #####	
121 Sb	0.03 ug/l	17.80	---	##### - #####	
137 Ba	0.09 ug/l	2.31	---	##### - #####	
202 Hg	0.00 ug/l	81.35	---	##### - #####	
205 Tl	0.00 ug/l	44.13	---	##### - #####	
208 Pb	0.19 ug/l	16.51	---	##### - #####	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	414103.53	0.34	442436.88	93.6	60 - 125		
45 Sc	479572.25	0.39	456299.72	105.1	60 - 125		
45 Sc	763240.06	0.23	765061.25	99.8	60 - 125		
74 Ge	150781.39	0.56	153441.28	98.3	60 - 125		
74 Ge	44925.48	0.38	47804.94	94.0	60 - 125		
74 Ge	213395.86	0.50	224564.78	95.0	60 - 125		
89 Y	1294405.30	0.86	1302847.50	99.4	60 - 125		
115 In	1294572.00	0.66	1366177.60	94.8	60 - 125		
159 Tb	1967284.80	0.60	2052817.90	95.8	60 - 125		
209 Bi	1186408.00	1.02	1405468.50	84.4	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\019SMPL.D\019SMPL.D#
 Date Acquired: Aug 24 2014 12:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 2PPM
 Misc Info: MS-Lin-Rng 00038 1/10
 Vial Number: 4512
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.005371	0.005371	ug/l	37.22	100.00		6.67	10.00	13.33
11 B # 3	2039	2039	ug/l	0.78	1800.00		2704257.50	2682120.00	2706628.80
23 Na # 1	4.322	4.322	ug/l	5.12	81000.00		106894.67	106566.63	107088.95
24 Mg # 1	4.667	4.667	ug/l	2.20	81000.00		11910.64	11823.91	12177.45
27 Al # 1	5.026	5.026	ug/l	1.05	81000.00		15580.08	15449.87	15626.73
39 K # 2	-1.205	-1.205	ug/l	73.90	81000.00		12177.50	11964.08	12524.51
40 Ca # 1	6.026	6.026	ug/l	4.32	81000.00		62155.65	64380.01	64684.21
47 Ti # 3	0.2318	0.2318	ug/l	10.53	1620.00		333.35	313.34	363.35
51 V # 2	1802	1802	ug/l	0.86	1800.00	Fail	4601833.00	4665337.50	4683101.00
52 Cr # 2	1893	1893	ug/l	0.31	1800.00	Fail	5894237.00	5947493.00	5911731.50
55 Mn # 3	4018	4018	ug/l	0.20	1800.00	Fail	73183552.00	73365768.00	73721520.00
56 Fe # 1	8.206	8.206	ug/l	1.68	81000.00		72364.27	73177.65	73904.31
59 Co # 3	969	969	ug/l	0.63	1800.00		13418863.00	13404950.00	13402596.00
60 Ni # 2	3812	3812	ug/l	0.85	1800.00	Fail	4383495.50	4415574.00	4458443.50
63 Cu # 2	3732	3732	ug/l	0.31	1800.00	Fail	11879782.00	11840816.00	11866425.00
66 Zn # 3	4053	4053	ug/l	0.98	1800.00	Fail	8186848.00	8147216.50	8119923.00
75 As # 2	2014	2014	ug/l	0.29	100.00	Fail	680794.31	681889.50	684070.56
78 Se # 1	0.01727	0.01727	ug/l	36.75	100.00		23.00	25.67	25.67
88 Sr # 3	1873	1873	ug/l	0.78	1800.00	Fail	45613308.00	45644260.00	45425064.00
95 Mo # 3	0.7903	0.7903	ug/l	2.38	1800.00		3243.72	3097.03	3070.37
107 Ag # 3	0.01086	0.01086	ug/l	13.65	100.00		250.01	240.01	216.67
111 Cd # 3	0.01041	0.01041	ug/l	67.15	100.00		49.29	19.32	22.66
118 Sn # 3	2148	2148	ug/l	0.82	1800.00	Fail	15620265.00	15526426.00	15676000.00
121 Sb # 3	0.1011	0.1011	ug/l	6.73	100.00		863.38	923.39	970.06
137 Ba # 3	2142	2142	ug/l	1.13	1800.00	Fail	8205636.50	8272331.50	8271086.50
202 Hg # 3	0.2161	0.2161	ug/l	109.39	5.00		1583.86	86.67	773.69
205 Tl # 3	0.04551	0.04551	ug/l	2.36	20.00		1416.77	1410.10	1470.11
208 Pb # 3	4011	4011	ug/l	0.59	1800.00	Fail	147666660.00	148406940.00	148012140.00
232 Th # 3	0.07609	0.07609	ug/l	4.25	#VALUE!		3643.89	3400.49	3330.47
238 U # 3	0.002823	0.002823	ug/l	19.12	#VALUE!		173.34	160.01	126.67

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	388794.41	0.33	442436.88	87.9	60 - 125		389200.19	389829.25	387353.75
45 Sc # 1	433811.13	0.53	456299.72	95.1	60 - 125		435884.34	434217.47	431331.59
45 Sc # 3	690245.63	0.11	765061.25	90.2	60 - 125		690330.50	689424.56	690981.75
74 Ge # 1	149786.14	0.58	153441.28	97.6	60 - 125		150557.17	149948.44	148852.81
74 Ge # 2	44560.17	0.15	47804.94	93.2	60 - 125		44510.85	44635.51	44534.16
74 Ge # 3	213245.25	0.57	224564.78	95.0	60 - 125		212164.16	213001.17	214570.39
89 Y # 3	1252155.30	0.59	1302847.50	96.1	60 - 125		1256562.40	1243613.40	1256289.80
115 In # 3	1292297.80	0.68	1366177.60	94.6	60 - 125		1302355.00	1288311.90	1286226.50
159 Tb # 3	2001701.90	0.77	2052817.90	97.5	60 - 125		1983951.60	2009442.60	2011711.30
209 Bi # 3	1392144.60	1.11	1405468.50	99.1	60 - 125		1408543.80	1377733.30	1390156.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

11 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\020SMPL.D\020SMPL.D#
 Date Acquired: Aug 24 2014 12:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	23.54	23.54	ug/l	4.12	1800.00		34681.19	33846.50	32741.46
23 Na # 1	3.228	3.228	ug/l	48.48	81000.00		101887.98	100420.36	100792.43
24 Mg # 1	2.089	2.089	ug/l	10.49	81000.00		5967.77	6044.45	5417.60
27 Al # 1	2.002	2.002	ug/l	5.41	81000.00		6931.44	7211.53	6874.80
39 K # 2	-4.006	-4.006	ug/l	9.23	81000.00		11273.63	11133.75	11407.03
40 Ca # 1	2.084	2.084	ug/l	11.01	81000.00		37351.00	38058.84	37414.41
47 Ti # 3	0.01627	0.01627	ug/l	82.11	1620.00		110.00	116.67	136.67
51 V # 2	0.02711	0.02711	ug/l	45.59	1800.00		305.56	317.78	262.23
52 Cr # 2	0.005451	0.005451	ug/l	73.44	1800.00		330.01	326.67	355.56
55 Mn # 3	0.03215	0.03215	ug/l	23.08	1800.00		2090.18	1880.15	2166.86
56 Fe # 1	2.864	2.864	ug/l	4.51	81000.00		27260.56	28702.82	27287.24
59 Co # 3	0.01065	0.01065	ug/l	3.99	1800.00		213.34	220.01	223.34
60 Ni # 2	0.02562	0.02562	ug/l	21.32	1800.00		82.22	81.11	72.22
63 Cu # 2	0.1994	0.1994	ug/l	7.80	1800.00		1100.04	1035.60	1031.15
66 Zn # 3	0.06199	0.06199	ug/l	14.04	1800.00		773.37	746.70	733.37
75 As # 2	0.2724	0.2724	ug/l	3.83	100.00		107.67	102.33	109.67
78 Se # 1	0.009085	0.009085	ug/l	190.09	100.00		24.33	17.67	25.67
88 Sr # 3	0.01446	0.01446	ug/l	2.24	1800.00		523.36	510.03	520.02
95 Mo # 3	0.2069	0.2069	ug/l	2.45	1800.00		956.72	956.72	926.71
107 Ag # 3	-0.002228	-0.002228	ug/l	28.09	100.00		100.00	106.67	93.34
111 Cd # 3	-5.1E-005	-5.1E-005	ug/l	2698.20	100.00		9.79	3.12	6.46
118 Sn # 3	1.622	1.622	ug/l	5.58	1800.00		13739.14	13041.85	12411.49
121 Sb # 3	0.001382	0.001382	ug/l	96.45	100.00		43.33	66.67	50.00
137 Ba # 3	0.01617	0.01617	ug/l	32.72	1800.00		80.00	113.34	120.00
202 Hg # 3	-0.01509	-0.01509	ug/l	27.99	5.00		64.00	91.00	79.67
205 Tl # 3	-0.004164	-0.004164	ug/l	18.32	20.00		103.34	63.34	93.34
208 Pb # 3	0.03727	0.03727	ug/l	7.33	1800.00		2930.21	2803.51	2746.85
232 Th # 3	0.005323	0.005323	ug/l	25.76	#VALUE!		500.03	453.35	566.70
238 U # 3	0.001805	0.001805	ug/l	16.31	#VALUE!		116.67	113.34	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	394756.78	0.97	442436.88	89.2	60 - 125		390883.72	394806.44	398580.16
45 Sc # 1	425299.19	4.21	456299.72	93.2	60 - 125		404639.94	434810.41	436447.13
45 Sc # 3	709772.25	0.14	765061.25	92.8	60 - 125		709255.94	710943.31	709117.56
74 Ge # 1	149320.52	1.78	153441.28	97.3	60 - 125		146303.67	151293.95	150363.94
74 Ge # 2	44474.72	1.15	47804.94	93.0	60 - 125		43999.48	44407.18	45017.49
74 Ge # 3	218255.20	0.66	224564.78	97.2	60 - 125		219602.42	216745.89	218417.28
89 Y # 3	1282437.90	0.44	1302847.50	98.4	60 - 125		1276386.30	1283228.10	1287699.40
115 In # 3	1353377.50	0.35	1366177.60	99.1	60 - 125		1352989.00	1348885.00	1358258.60
159 Tb # 3	2010005.80	0.36	2052817.90	97.9	60 - 125		2006250.10	2005374.40	2018392.90
209 Bi # 3	1374686.10	0.31	1405468.50	97.8	60 - 125		1378712.30	1370329.50	1375016.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\021SMPL.D\021SMPL.D#
 Date Acquired: Aug 24 2014 12:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002593	0.002593	ug/l	112.19	100.00		6.67	10.00	0.00
11 B # 3	12.29	12.29	ug/l	1.05	1800.00		19123.12	19316.67	19053.00
23 Na # 1	0.4844	0.4844	ug/l	26.42	81000.00		97672.76	96599.38	96453.77
24 Mg # 1	1.584	1.584	ug/l	2.00	81000.00		4980.80	4910.75	4814.08
27 Al # 1	1.52	1.52	ug/l	1.65	81000.00		6027.80	5897.75	6047.80
39 K # 2	-3.315	-3.315	ug/l	17.41	81000.00		11507.17	11670.58	12000.78
40 Ca # 1	1.444	1.444	ug/l	4.91	81000.00		35036.48	35119.74	35824.48
47 Ti # 3	0.01996	0.01996	ug/l	78.26	1620.00		130.00	110.00	143.34
51 V # 2	0.0236	0.0236	ug/l	32.73	1800.00		312.23	284.45	278.89
52 Cr # 2	-0.01023	-0.01023	ug/l	38.98	1800.00		286.67	310.01	285.56
55 Mn # 3	0.01779	0.01779	ug/l	22.25	1800.00		1776.80	1723.47	1873.47
56 Fe # 1	2.086	2.086	ug/l	0.45	81000.00		22450.67	22490.79	22423.99
59 Co # 3	0.004383	0.004383	ug/l	74.95	1800.00		83.34	133.34	176.67
60 Ni # 2	0.001685	0.001685	ug/l	379.94	1800.00		55.56	56.67	43.33
63 Cu # 2	0.05343	0.05343	ug/l	14.73	1800.00		594.46	584.46	634.46
66 Zn # 3	-0.03571	-0.03571	ug/l	36.54	1800.00		536.69	583.36	543.35
75 As # 2	0.1229	0.1229	ug/l	1.90	100.00		55.67	58.00	57.67
78 Se # 1	-0.002186	-0.002186	ug/l	1033.40	100.00		18.00	27.00	15.67
88 Sr # 3	0.006629	0.006629	ug/l	42.90	1800.00		243.34	340.01	386.68
95 Mo # 3	0.1181	0.1181	ug/l	10.86	1800.00		560.02	573.36	656.70
107 Ag # 3	-0.00143	-0.00143	ug/l	145.10	100.00		120.00	126.67	83.34
111 Cd # 3	0.00177	0.00177	ug/l	159.94	100.00		16.54	3.21	13.19
118 Sn # 3	0.5756	0.5756	ug/l	5.22	1800.00		5254.28	5304.32	4894.19
121 Sb # 3	0.002531	0.002531	ug/l	95.22	100.00		83.34	70.00	40.00
137 Ba # 3	0.005286	0.005286	ug/l	69.71	1800.00		46.67	60.00	76.67
202 Hg # 3	-0.01453	-0.01453	ug/l	17.10	5.00		88.00	77.34	74.67
205 Tl # 3	-0.004249	-0.004249	ug/l	6.40	20.00		76.67	83.34	93.34
208 Pb # 3	0.01071	0.01071	ug/l	25.37	1800.00		1730.10	1830.10	1973.44
232 Th # 3	0.00533	0.00533	ug/l	14.99	#VALUE!		473.36	520.03	533.36
238 U # 3	0.001406	0.001406	ug/l	19.14	#VALUE!		103.34	90.00	80.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	405450.13	0.22	442436.88	91.6	60 - 125		405577.53	404500.03	406272.75
45 Sc # 1	447007.59	0.27	456299.72	98.0	60 - 125		448334.28	445964.28	446724.22
45 Sc # 3	725646.56	0.22	765061.25	94.8	60 - 125		723960.81	725794.13	727184.69
74 Ge # 1	153576.67	0.23	153441.28	100.1	60 - 125		153370.48	153378.83	153980.75
74 Ge # 2	45345.79	0.81	47804.94	94.9	60 - 125		44920.67	45580.03	45536.66
74 Ge # 3	220048.75	0.37	224564.78	98.0	60 - 125		220888.80	219287.70	219969.73
89 Y # 3	1284179.00	0.90	1302847.50	98.6	60 - 125		1277723.40	1277322.50	1297491.50
115 In # 3	1366566.90	0.23	1366177.60	100.0	60 - 125		1368455.40	1362974.00	1368271.30
159 Tb # 3	2010911.30	1.18	2052817.90	98.0	60 - 125		1986788.30	2011920.40	2034024.80
209 Bi # 3	1380356.40	0.69	1405468.50	98.2	60 - 125		1386759.60	1369451.90	1384857.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\022SMPL.D\022SMPL.D#
 Date Acquired: Aug 24 2014 12:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.796E-005	4.796E-005	ug/l	2262.30	100.00		0.00	0.00	3.33
11 B # 3	8.325	8.325	ug/l	3.13	1800.00		14142.14	13668.42	13665.09
23 Na # 1	0.3994	0.3994	ug/l	115.72	81000.00		97703.06	98105.13	95519.18
24 Mg # 1	1.796	1.796	ug/l	1.34	81000.00		5444.25	5487.59	5387.56
27 Al # 1	1.774	1.774	ug/l	4.00	81000.00		6808.05	6524.62	6918.12
39 K # 2	-3.722	-3.722	ug/l	13.70	81000.00		11497.16	11667.25	12017.46
40 Ca # 1	1.721	1.721	ug/l	4.07	81000.00		37731.59	37277.33	37060.36
47 Ti # 3	-0.005634	-0.005634	ug/l	341.85	1620.00		123.34	83.34	96.67
51 V # 2	0.02902	0.02902	ug/l	34.28	1800.00		276.67	328.90	324.45
52 Cr # 2	-0.005232	-0.005232	ug/l	77.45	1800.00		304.45	305.56	331.12
55 Mn # 3	0.02581	0.02581	ug/l	19.44	1800.00		1950.17	1866.81	2043.51
56 Fe # 1	2.255	2.255	ug/l	2.05	81000.00		24403.25	23919.35	23792.46
59 Co # 3	0.009043	0.009043	ug/l	7.39	1800.00		210.01	196.67	190.01
60 Ni # 2	0.01541	0.01541	ug/l	29.99	1800.00		66.67	64.45	75.56
63 Cu # 2	0.03603	0.03603	ug/l	33.58	1800.00		590.01	552.24	521.12
66 Zn # 3	-0.01235	-0.01235	ug/l	260.57	1800.00		650.03	643.36	526.69
75 As # 2	0.06969	0.06969	ug/l	15.60	100.00		40.33	35.00	42.33
78 Se # 1	0.007595	0.007595	ug/l	220.01	100.00		28.00	21.67	19.33
88 Sr # 3	0.01226	0.01226	ug/l	17.81	1800.00		503.36	406.68	490.02
95 Mo # 3	0.08888	0.08888	ug/l	8.15	1800.00		503.35	446.69	486.69
107 Ag # 3	-0.002126	-0.002126	ug/l	20.91	100.00		96.67	103.34	106.67
111 Cd # 3	0.002234	0.002234	ug/l	153.49	100.00		3.22	19.90	13.23
118 Sn # 3	0.3338	0.3338	ug/l	5.71	1800.00		3337.10	3417.11	3133.72
121 Sb # 3	0.001802	0.001802	ug/l	11.48	100.00		56.67	56.67	60.00
137 Ba # 3	0.01345	0.01345	ug/l	40.42	1800.00		80.00	83.34	120.00
202 Hg # 3	-0.01548	-0.01548	ug/l	7.00	5.00		75.67	80.67	76.00
205 Tl # 3	-0.003699	-0.003699	ug/l	7.92	20.00		93.34	96.67	110.00
208 Pb # 3	0.04475	0.04475	ug/l	116.47	1800.00		1936.78	5312.88	2090.13
232 Th # 3	0.005078	0.005078	ug/l	15.86	#VALUE!		536.69	503.36	466.69
238 U # 3	0.001112	0.001112	ug/l	46.19	#VALUE!		63.34	70.00	103.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	409074.31	0.63	442436.88	92.5	60 - 125		406141.25	410904.94	410176.75
45 Sc # 1	449302.22	0.33	456299.72	98.5	60 - 125		447635.56	449782.47	450488.56
45 Sc # 3	730774.19	0.67	765061.25	95.5	60 - 125		727029.19	728996.75	736296.63
74 Ge # 1	154691.80	0.24	153441.28	100.8	60 - 125		154634.53	155084.19	154356.64
74 Ge # 2	45886.37	0.92	47804.94	96.0	60 - 125		45416.25	46008.93	46233.93
74 Ge # 3	221329.78	0.39	224564.78	98.6	60 - 125		221859.45	221791.72	220338.20
89 Y # 3	1293613.80	0.68	1302847.50	99.3	60 - 125		1283829.00	1301025.80	1295986.60
115 In # 3	1367630.90	0.06	1366177.60	100.1	60 - 125		1366625.60	1368158.80	1368108.10
159 Tb # 3	2023166.30	1.03	2052817.90	98.6	60 - 125		2023150.00	2002398.10	2043950.10
209 Bi # 3	1390254.30	1.24	1405468.50	98.9	60 - 125		1386651.80	1409070.80	1375040.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\023SMPL.D\023SMPL.D#
 Date Acquired: Aug 24 2014 12:50 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	6.494	6.494	ug/l	3.28	1800.00		11153.45	11350.22	11520.33
23 Na # 1	-0.1147	-0.1147	ug/l	155.88	81000.00		97023.17	95873.56	95569.65
24 Mg # 1	1.083	1.083	ug/l	2.15	81000.00		3760.47	3677.12	3797.13
27 Al # 1	1.075	1.075	ug/l	1.45	81000.00		4757.39	4750.72	4830.85
39 K # 2	-2.482	-2.482	ug/l	12.81	81000.00		11960.81	12247.63	12210.96
40 Ca # 1	1.06	1.06	ug/l	7.34	81000.00		33480.11	33583.69	32645.34
47 Ti # 3	-0.02696	-0.02696	ug/l	29.26	1620.00		83.34	70.00	83.34
51 V # 2	0.03202	0.03202	ug/l	39.76	1800.00		278.89	322.23	352.23
52 Cr # 2	0.001032	0.001032	ug/l	763.86	1800.00		303.34	337.78	360.01
55 Mn # 3	0.02627	0.02627	ug/l	6.71	1800.00		2000.16	1976.82	1956.82
56 Fe # 1	1.292	1.292	ug/l	2.06	81000.00		15703.74	16044.01	15670.36
59 Co # 3	0.007478	0.007478	ug/l	20.74	1800.00		166.67	163.34	203.34
60 Ni # 2	0.02817	0.02817	ug/l	21.84	1800.00		77.78	81.11	93.33
63 Cu # 2	0.02074	0.02074	ug/l	44.58	1800.00		533.35	480.01	498.90
66 Zn # 3	-0.0179	-0.0179	ug/l	182.23	1800.00		516.69	653.37	630.03
75 As # 2	0.07931	0.07931	ug/l	7.92	100.00		39.67	44.00	44.00
78 Se # 1	0.0003139	0.0003139	ug/l	1354.90	100.00		21.67	22.00	19.67
88 Sr # 3	0.01498	0.01498	ug/l	14.08	1800.00		540.02	480.02	583.36
95 Mo # 3	0.05211	0.05211	ug/l	18.63	1800.00		306.68	310.01	376.68
107 Ag # 3	-0.003037	-0.003037	ug/l	61.31	100.00		80.00	80.00	116.67
111 Cd # 3	0.001327	0.001327	ug/l	102.64	100.00		9.93	13.27	6.58
118 Sn # 3	0.2361	0.2361	ug/l	3.84	1800.00		2600.28	2586.96	2473.59
121 Sb # 3	0.0006994	0.0006994	ug/l	181.30	100.00		46.67	60.00	36.67
137 Ba # 3	0.01582	0.01582	ug/l	12.97	1800.00		96.67	103.34	113.34
202 Hg # 3	-0.01411	-0.01411	ug/l	43.74	5.00		84.00	60.67	99.67
205 Tl # 3	-0.005556	-0.005556	ug/l	6.60	20.00		46.67	60.00	40.00
208 Pb # 3	0.02498	0.02498	ug/l	11.22	1800.00		2447.72	2266.81	2410.15
232 Th # 3	0.002588	0.002588	ug/l	34.51	#VALUE!		426.69	353.35	406.68
238 U # 3	3.709E-005	3.709E-005	ug/l	444.86	#VALUE!		30.00	26.67	40.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	411318.16	1.04	442436.88	93.0	60 - 125		414652.88	412787.22	406514.31
45 Sc # 1	453167.84	0.21	456299.72	99.3	60 - 125		454126.66	452266.66	453110.19
45 Sc # 3	737766.25	1.55	765061.25	96.4	60 - 125		724984.56	747071.75	741242.38
74 Ge # 1	155139.34	0.61	153441.28	101.1	60 - 125		155203.94	156051.05	154163.05
74 Ge # 2	45848.90	1.00	47804.94	95.9	60 - 125		45425.17	45784.04	46337.47
74 Ge # 3	223092.91	0.87	224564.78	99.3	60 - 125		221232.59	225119.16	222926.97
89 Y # 3	1291676.60	0.30	1302847.50	99.1	60 - 125		1294961.10	1292626.30	1287442.50
115 In # 3	1372325.90	0.04	1366177.60	100.5	60 - 125		1372774.60	1371669.10	1372534.00
159 Tb # 3	2013110.00	0.37	2052817.90	98.1	60 - 125		2008390.40	2021782.90	2009156.60
209 Bi # 3	1379021.30	0.65	1405468.50	98.1	60 - 125		1388752.10	1377027.90	1371283.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\024_CCV.D\024_CCV.D#
 Date Acquired: Aug 24 2014 12:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info: MS_CCVcpi_00183
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.06 ug/l	0.50	50.00	89.5 - 110		90678.52	88957.41	90116.36
11 B	105.1 ug/l	1.00	100.00	89.5 - 110		150889.38	150867.78	149986.91
23 Na	5131 ug/l	0.56	5000.00	89.5 - 110		18368884.00	18577564.00	18434766.00
24 Mg	5117 ug/l	0.42	5000.00	89.5 - 110		12789206.00	12838533.00	12899103.00
27 Al	523.6 ug/l	0.46	500.00	89.5 - 110		1565658.30	1553579.60	1565394.50
39 K	4989 ug/l	0.29	5000.00	89.5 - 110		1706716.30	1725601.60	1748488.50
40 Ca	5169 ug/l	0.22	5000.00	89.5 - 110		35730360.00	35589808.00	35678948.00
47 Ti	50.69 ug/l	0.82	50.00	89.5 - 110		58217.43	57909.44	57421.47
51 V	50.1 ug/l	0.72	50.00	89.5 - 110		133264.13	133863.03	135348.70
52 Cr	50.41 ug/l	0.83	50.00	89.5 - 110		162384.45	164017.30	164326.77
55 Mn	510.5 ug/l	0.57	500.00	89.5 - 110		9859381.00	9954605.00	9921457.00
56 Fe	5259 ug/l	0.43	5000.00	89.5 - 110		47193408.00	47579096.00	47229592.00
59 Co	49.76 ug/l	0.60	50.00	89.5 - 110		731435.50	729162.69	734094.06
60 Ni	51.08 ug/l	0.89	50.00	89.5 - 110		61101.21	61257.18	61829.11
63 Cu	49.88 ug/l	1.03	50.00	89.5 - 110		164078.95	164663.28	165390.94
66 Zn	49.24 ug/l	1.29	50.00	89.5 - 110		107181.29	104576.20	105782.90
75 As	50.89 ug/l	0.54	50.00	89.5 - 110		17712.56	17816.67	18097.61
78 Se	51.55 ug/l	1.17	50.00	89.5 - 110		14191.86	14262.25	13946.34
88 Sr	49.48 ug/l	0.66	50.00	89.5 - 110		1267575.40	1279966.90	1279348.50
95 Mo	50.21 ug/l	1.57	50.00	89.5 - 110		204952.31	205184.92	203563.27
107 Ag	49.15 ug/l	1.09	50.00	89.5 - 110		560082.94	558413.25	560552.56
111 Cd	50.5 ug/l	1.16	50.00	89.5 - 110		124733.67	124029.07	123975.61
118 Sn	50.7 ug/l	1.32	50.00	89.5 - 110		392688.00	392814.38	392415.31
121 Sb	49.77 ug/l	1.56	50.00	89.5 - 110		459163.13	462538.78	462357.19
137 Ba	49.98 ug/l	0.96	50.00	89.5 - 110		205495.83	204134.92	205078.45
202 Hg	2.542 ug/l	1.96	2.50	89.5 - 110		8539.98	8304.17	8467.61
205 Tl	9.938 ug/l	1.65	10.00	89.5 - 110		276955.94	275476.56	272996.63
208 Pb	49.89 ug/l	0.87	50.00	89.5 - 110		1879526.90	1882953.90	1881751.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	415227.91	0.73	442436.88	93.9	60 - 125		416344.56	411791.13	417548.00
45 Sc	465215.28	0.02	456299.72	102.0	60 - 125		465144.72	465298.31	465202.84
45 Sc	774037.00	0.34	765061.25	101.2	60 - 125		775491.56	770975.75	775643.75
74 Ge	157860.73	0.04	153441.28	102.9	60 - 125		157795.69	157915.83	157870.69
74 Ge	46170.79	1.42	47804.94	96.6	60 - 125		45483.20	46241.69	46787.47
74 Ge	226545.39	0.27	224564.78	100.9	60 - 125		226829.08	226975.75	225831.33
89 Y	1326817.80	0.20	1302847.50	101.8	60 - 125		1328384.10	1328259.50	1323809.80
115 In	1375216.40	1.27	1366177.60	100.7	60 - 125		1386019.40	1355026.60	1384603.00
159 Tb	2043866.60	0.93	2052817.90	99.6	60 - 125		2025067.00	2043623.30	2062909.50
209 Bi	1365463.50	1.61	1405468.50	97.2	60 - 125		1341652.90	1369920.60	1384817.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\025_CCB.D\025_CCB.D#
 Date Acquired: Aug 24 2014 01:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.768E-005	1.768E-005	ug/l	5837.10	#VALUE!		0.00	0.00	3.33
11 B #3	5.473	5.473	ug/l	2.34	#VALUE!		10416.35	10366.35	10189.59
23 Na #1	-0.8608	-0.8608	ug/l	3.25	#VALUE!		96008.12	95844.11	95880.91
24 Mg #1	0.213	0.213	ug/l	34.57	#VALUE!		1513.43	1593.44	1866.81
27 Al #1	0.1352	0.1352	ug/l	12.67	#VALUE!		2053.50	2106.84	2156.85
39 K #2	-2.193	-2.193	ug/l	38.13	#VALUE!		12140.86	12714.62	12684.63
40 Ca #1	0.178	0.178	ug/l	47.30	#VALUE!		27750.89	28652.19	27600.76
47 Ti #3	-0.03611	-0.03611	ug/l	19.90	#VALUE!		73.34	76.67	63.33
51 V #2	0.02542	0.02542	ug/l	24.70	#VALUE!		317.78	312.23	290.01
52 Cr #2	-0.004589	-0.004589	ug/l	70.60	#VALUE!		313.34	316.67	337.78
55 Mn #3	0.01338	0.01338	ug/l	13.66	#VALUE!		1723.46	1760.14	1806.80
56 Fe #1	0.6738	0.6738	ug/l	6.14	#VALUE!		10266.44	10666.64	11016.89
59 Co #3	0.002581	0.002581	ug/l	44.25	#VALUE!		90.00	123.34	113.34
60 Ni #2	0.004218	0.004218	ug/l	170.70	#VALUE!		64.45	57.78	47.78
63 Cu #2	0.004711	0.004711	ug/l	160.62	#VALUE!		445.57	488.90	451.12
66 Zn #3	-0.06694	-0.06694	ug/l	29.12	#VALUE!		513.35	460.02	543.36
75 As #2	0.05334	0.05334	ug/l	24.90	#VALUE!		38.67	34.33	29.67
78 Se #1	0.02829	0.02829	ug/l	45.21	#VALUE!		33.33	26.67	28.00
88 Sr #3	0.003878	0.003878	ug/l	23.19	#VALUE!		240.01	260.01	290.01
95 Mo #3	0.06061	0.06061	ug/l	21.42	#VALUE!		320.01	370.01	420.02
107 Ag #3	-0.0009151	-0.0009151	ug/l	87.75	#VALUE!		116.67	110.00	126.67
111 Cd #3	0.0003806	0.0003806	ug/l	536.78	#VALUE!		3.26	13.25	6.57
118 Sn #3	0.1691	0.1691	ug/l	4.07	#VALUE!		2053.52	2030.18	2103.54
121 Sb #3	0.01689	0.01689	ug/l	10.36	#VALUE!		190.01	193.34	216.67
137 Ba #3	0.008811	0.008811	ug/l	48.78	#VALUE!		56.67	86.67	86.67
202 Hg #3	-0.004793	-0.004793	ug/l	29.79	#VALUE!		110.33	118.33	111.33
205 Tl #3	-0.003418	-0.003418	ug/l	3.52	#VALUE!		106.67	106.67	113.34
208 Pb #3	-0.00296	-0.00296	ug/l	89.22	#VALUE!		1256.73	1453.41	1370.07

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	428290.34	0.70	442436.88	96.8	60 - 125		425077.81	428770.09	431023.06
45 Sc #1	464583.06	0.05	456299.72	101.8	60 - 125		464515.19	464397.22	464836.84
45 Sc #3	760925.75	1.63	765061.25	99.5	60 - 125		757574.56	750580.38	774622.38
74 Ge #1	158925.91	0.28	153441.28	103.6	60 - 125		158873.05	158511.91	159392.78
74 Ge #2	46877.00	0.80	47804.94	98.1	60 - 125		46658.32	46662.77	47309.92
74 Ge #3	227162.66	0.36	224564.78	101.2	60 - 125		226294.84	227281.56	227911.56
89 Y #3	1328713.40	0.74	1302847.50	102.0	60 - 125		1318620.30	1329133.40	1338386.60
115 In #3	1389846.80	0.92	1366177.60	101.7	60 - 125		1401319.10	1392123.40	1376097.80
159 Tb #3	2046093.80	0.47	2052817.90	99.7	60 - 125		2042091.60	2039126.30	2057063.50
209 Bi #3	1402759.60	0.61	1405468.50	99.8	60 - 125		1400608.10	1412127.60	1395543.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\026SMPL.D\026SMPL.D#
 Date Acquired: Aug 24 2014 01:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-1
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	2.046E-005	2.046E-005	ug/l	5068.40	100.00		0.00	3.33	0.00
11 B # 3	4.496	4.496	ug/l	2.38	1800.00		9142.40	8778.86	8925.57
23 Na # 1	-1.133	-1.133	ug/l	34.93	81000.00		96205.91	94202.50	96751.73
24 Mg # 1	-0.1556	-0.1556	ug/l	23.09	81000.00		833.38	733.37	653.36
27 Al # 1	-0.1362	-0.1362	ug/l	21.84	81000.00		1410.09	1253.41	1263.41
39 K # 2	-2.322	-2.322	ug/l	18.35	81000.00		12484.43	12421.09	12671.26
40 Ca # 1	-0.1984	-0.1984	ug/l	9.27	81000.00		25714.65	25647.96	25494.41
47 Ti # 3	-0.06225	-0.06225	ug/l	27.39	1620.00		20.00	53.33	53.34
51 V # 2	0.03065	0.03065	ug/l	34.13	1800.00		290.00	351.12	326.67
52 Cr # 2	-0.02039	-0.02039	ug/l	18.59	1800.00		267.78	286.67	261.12
55 Mn # 3	-0.00552	-0.00552	ug/l	58.19	1800.00		1343.42	1460.10	1403.43
56 Fe # 1	0.05048	0.05048	ug/l	27.14	81000.00		4954.14	5214.20	5100.84
59 Co # 3	0.0005202	0.0005202	ug/l	64.17	1800.00		80.00	73.34	83.34
60 Ni # 2	-0.0002787	-0.0002787	ug/l	2680.70	1800.00		45.56	46.67	62.22
63 Cu # 2	-0.01818	-0.01818	ug/l	41.67	1800.00		412.23	368.90	380.01
66 Zn # 3	-0.08824	-0.08824	ug/l	11.80	1800.00		463.35	483.35	440.02
75 As # 2	0.03705	0.03705	ug/l	24.49	100.00		32.00	26.33	27.33
78 Se # 1	0.01347	0.01347	ug/l	98.81	100.00		24.33	29.33	22.33
88 Sr # 3	0.0002103	0.0002103	ug/l	441.75	1800.00		146.67	163.34	196.67
95 Mo # 3	0.01657	0.01657	ug/l	77.07	1800.00		166.67	253.34	150.00
107 Ag # 3	-0.003258	-0.003258	ug/l	24.51	100.00		96.67	96.67	80.00
111 Cd # 3	0.0008576	0.0008576	ug/l	479.94	100.00		6.63	-0.06	19.97
118 Sn # 3	0.1204	0.1204	ug/l	6.77	1800.00		1706.80	1636.79	1713.47
121 Sb # 3	0.004989	0.004989	ug/l	30.09	100.00		90.00	103.34	73.34
137 Ba # 3	-0.0003612	-0.0003612	ug/l	313.12	1800.00		33.33	43.33	40.00
202 Hg # 3	-0.008837	-0.008837	ug/l	26.72	5.00		99.67	106.34	92.33
205 Tl # 3	-0.005572	-0.005572	ug/l	6.76	20.00		60.00	46.67	40.00
208 Pb # 3	-0.01172	-0.01172	ug/l	10.97	1800.00		986.72	996.71	1086.72
232 Th # 3	0.03149	0.03149	ug/l	8.74	#VALUE!		1530.13	1730.16	1560.12
238 U # 3	0.0006139	0.0006139	ug/l	58.12	#VALUE!		70.00	40.00	63.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	430527.81	0.32	442436.88	97.3	60 - 125		431660.19	429019.09	430904.09
45 Sc # 1	468422.28	0.12	456299.72	102.7	60 - 125		467827.41	468971.75	468467.69
45 Sc # 3	765881.69	0.90	765061.25	100.1	60 - 125		764749.25	759625.69	773270.06
74 Ge # 1	159502.89	0.38	153441.28	104.0	60 - 125		160105.97	158895.55	159507.16
74 Ge # 2	47094.60	0.74	47804.94	98.5	60 - 125		46696.18	47345.63	47242.00
74 Ge # 3	228319.81	0.32	224564.78	101.7	60 - 125		229067.23	227600.23	228291.97
89 Y # 3	1330388.60	1.05	1302847.50	102.1	60 - 125		1314398.90	1336781.30	1339985.90
115 In # 3	1393339.90	1.31	1366177.60	102.0	60 - 125		1381543.80	1414296.00	1384179.80
159 Tb # 3	2033337.90	0.70	2052817.90	99.1	60 - 125		2029124.50	2021585.00	2049304.40
209 Bi # 3	1396708.40	0.53	1405468.50	99.4	60 - 125		1405032.60	1390761.50	1394330.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\027SMPL.D\027SMPL.D#
 Date Acquired: Aug 24 2014 01:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-2
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	3.663	3.663	ug/l	3.26	1800.00		7991.86	7915.13	7681.72
23 Na # 1	-1.119	-1.119	ug/l	29.11	81000.00		96473.52	94500.67	96584.20
24 Mg # 1	-0.02325	-0.02325	ug/l	165.12	81000.00		1186.73	1043.39	996.72
27 Al # 1	-0.08148	-0.08148	ug/l	34.57	81000.00		1566.77	1463.43	1393.42
39 K # 2	-2.223	-2.223	ug/l	19.33	81000.00		12387.69	12761.25	12607.88
40 Ca # 1	-0.04435	-0.04435	ug/l	37.70	81000.00		26782.88	26809.61	26542.49
47 Ti # 3	-0.03273	-0.03273	ug/l	10.43	1620.00		76.67	80.00	73.34
51 V # 2	0.03544	0.03544	ug/l	70.77	1800.00		352.23	260.00	396.68
52 Cr # 2	-0.009943	-0.009943	ug/l	39.92	1800.00		288.89	316.67	315.56
55 Mn # 3	-0.002158	-0.002158	ug/l	320.57	1800.00		1350.08	1476.78	1633.45
56 Fe # 1	0.1161	0.1161	ug/l	7.43	81000.00		5651.02	5777.73	5637.68
59 Co # 3	0.001052	0.001052	ug/l	181.75	1800.00		76.67	120.00	66.67
60 Ni # 2	-0.008806	-0.008806	ug/l	39.16	1800.00		41.11	36.67	45.56
63 Cu # 2	-0.01951	-0.01951	ug/l	38.66	1800.00		386.67	404.45	358.90
66 Zn # 3	-0.07456	-0.07456	ug/l	15.84	1800.00		473.35	523.36	496.69
75 As # 2	0.03194	0.03194	ug/l	25.77	100.00		29.33	27.00	24.00
78 Se # 1	0.00376	0.00376	ug/l	257.63	100.00		25.33	23.00	20.00
88 Sr # 3	0.001207	0.001207	ug/l	191.88	1800.00		136.67	253.34	193.34
95 Mo # 3	0.003101	0.003101	ug/l	314.19	1800.00		96.67	133.34	176.67
107 Ag # 3	-0.00335	-0.00335	ug/l	58.99	100.00		73.34	83.34	116.67
111 Cd # 3	-0.0005349	-0.0005349	ug/l	281.73	100.00		9.98	3.30	3.29
118 Sn # 3	0.1036	0.1036	ug/l	7.69	1800.00		1513.45	1606.80	1603.45
121 Sb # 3	0.004166	0.004166	ug/l	74.48	100.00		113.34	80.00	53.34
137 Ba # 3	5.139E-005	5.139E-005	ug/l	2232.00	1800.00		46.67	40.00	36.67
202 Hg # 3	-0.01239	-0.01239	ug/l	28.84	5.00		77.67	85.67	102.34
205 Tl # 3	-0.005304	-0.005304	ug/l	1.95	20.00		53.33	56.67	60.00
208 Pb # 3	-0.006508	-0.006508	ug/l	89.55	1800.00		1471.62	1070.05	1136.72
232 Th # 3	0.0188	0.0188	ug/l	0.47	#VALUE!		1070.07	1080.07	1073.41
238 U # 3	0.0003365	0.0003365	ug/l	34.26	#VALUE!		50.00	46.67	40.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	438007.75	0.93	442436.88	99.0	60 - 125		441400.00	433475.19	439148.13
45 Sc # 1	468817.88	0.18	456299.72	102.7	60 - 125		469694.84	468712.84	468045.88
45 Sc # 3	778202.00	1.23	765061.25	101.7	60 - 125		769051.69	777451.94	788102.44
74 Ge # 1	160388.20	0.10	153441.28	104.5	60 - 125		160218.75	160430.86	160515.00
74 Ge # 2	47189.29	1.05	47804.94	98.7	60 - 125		46687.23	47200.79	47679.87
74 Ge # 3	231157.00	0.42	224564.78	102.9	60 - 125		230852.52	230375.16	232243.30
89 Y # 3	1331987.60	0.83	1302847.50	102.2	60 - 125		1338473.60	1319161.60	1338327.50
115 In # 3	1411194.50	0.66	1366177.60	103.3	60 - 125		1422015.00	1405391.40	1406177.00
159 Tb # 3	2046719.40	1.03	2052817.90	99.7	60 - 125		2036256.40	2032939.80	2070961.60
209 Bi # 3	1392843.30	0.39	1405468.50	99.1	60 - 125		1392405.30	1398450.00	1387674.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\028SMPL.D\028SMPL.D#
 Date Acquired: Aug 24 2014 01:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-3
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	5.32E-006	5.32E-006	ug/l	18986.00	100.00		3.33	0.00	0.00
11 B # 3	3.151	3.151	ug/l	2.51	1800.00		7061.45	7241.51	7071.45
23 Na # 1	-1.437	-1.437	ug/l	11.82	81000.00		95920.71	95227.23	95662.94
24 Mg # 1	-0.2053	-0.2053	ug/l	10.15	81000.00		593.36	583.36	686.70
27 Al # 1	-0.2053	-0.2053	ug/l	10.21	81000.00		1053.39	1096.73	1190.08
39 K # 2	-2.124	-2.124	ug/l	36.38	81000.00		12224.29	12691.26	13071.47
40 Ca # 1	-0.2301	-0.2301	ug/l	2.64	81000.00		25608.00	25591.20	25788.06
47 Ti # 3	-0.06032	-0.06032	ug/l	22.41	1620.00		26.67	53.34	53.34
51 V # 2	0.02192	0.02192	ug/l	39.57	1800.00		278.89	291.12	331.12
52 Cr # 2	-0.01794	-0.01794	ug/l	52.65	1800.00		306.67	285.56	251.12
55 Mn # 3	-0.01021	-0.01021	ug/l	29.87	1800.00		1250.08	1380.10	1350.08
56 Fe # 1	-0.1001	-0.1001	ug/l	17.21	81000.00		3913.84	3737.14	3637.14
59 Co # 3	-0.0007289	-0.0007289	ug/l	62.60	1800.00		63.34	66.67	53.34
60 Ni # 2	-0.01127	-0.01127	ug/l	31.46	1800.00		42.22	37.78	34.44
63 Cu # 2	-0.03039	-0.03039	ug/l	32.61	1800.00		322.23	331.12	391.12
66 Zn # 3	-0.07603	-0.07603	ug/l	9.49	1800.00		496.69	510.02	476.69
75 As # 2	0.02178	0.02178	ug/l	17.61	100.00		24.00	21.67	24.00
78 Se # 1	0.008503	0.008503	ug/l	92.07	100.00		22.00	24.00	26.33
88 Sr # 3	-0.0009689	-0.0009689	ug/l	2.65	1800.00		140.01	140.00	140.00
95 Mo # 3	-0.003029	-0.003029	ug/l	164.58	1800.00		86.67	113.34	126.67
107 Ag # 3	-0.003561	-0.003561	ug/l	37.35	100.00		96.67	70.00	96.67
111 Cd # 3	-5.68E-005	-5.68E-005	ug/l	2355.20	100.00		6.65	3.31	9.97
118 Sn # 3	0.09196	0.09196	ug/l	4.94	1800.00		1510.11	1436.77	1453.44
121 Sb # 3	0.001439	0.001439	ug/l	87.35	100.00		43.33	56.67	66.67
137 Ba # 3	0.001762	0.001762	ug/l	68.22	1800.00		53.34	43.33	46.67
202 Hg # 3	-0.01813	-0.01813	ug/l	6.56	5.00		72.00	66.00	71.67
205 Tl # 3	-0.005629	-0.005629	ug/l	8.62	20.00		50.00	33.33	60.00
208 Pb # 3	0.008332	0.008332	ug/l	524.48	1800.00		3648.28	790.03	896.71
232 Th # 3	0.01151	0.01151	ug/l	8.43	#VALUE!		763.38	736.71	806.71
238 U # 3	0.000159	0.000159	ug/l	24.84	#VALUE!		36.67	40.00	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	439469.22	0.24	442436.88	99.3	60 - 125		440145.72	438272.03	439989.88
45 Sc # 1	473278.19	0.59	456299.72	103.7	60 - 125		471651.13	471701.69	476481.72
45 Sc # 3	766223.13	0.45	765061.25	100.2	60 - 125		762375.38	769089.38	767204.56
74 Ge # 1	160474.23	0.05	153441.28	104.6	60 - 125		160512.92	160522.92	160386.83
74 Ge # 2	47337.83	1.21	47804.94	99.0	60 - 125		46765.25	47338.89	47909.35
74 Ge # 3	231076.58	0.63	224564.78	102.9	60 - 125		229646.53	232538.17	231045.05
89 Y # 3	1347013.00	0.48	1302847.50	103.4	60 - 125		1339885.40	1348749.80	1352403.80
115 In # 3	1396222.10	0.24	1366177.60	102.2	60 - 125		1399734.00	1395762.90	1393169.10
159 Tb # 3	2052738.50	1.23	2052817.90	100.0	60 - 125		2023538.30	2067366.00	2067311.30
209 Bi # 3	1389908.30	0.65	1405468.50	98.9	60 - 125		1389838.10	1398988.10	1380898.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\029SMPL.D\029SMPL.D#
 Date Acquired: Aug 24 2014 01:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-4
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	2.845	2.845	ug/l	2.34	1800.00		6677.98	6848.05	6691.28
23 Na # 1	0.1803	0.1803	ug/l	1158.10	81000.00		97026.09	98292.66	97789.97
24 Mg # 1	-0.213	-0.213	ug/l	11.75	81000.00		593.36	576.69	563.36
27 Al # 1	-0.1752	-0.1752	ug/l	15.93	81000.00		1100.07	1110.12	1276.79
39 K # 2	-1.345	-1.345	ug/l	40.80	81000.00		12761.32	12988.10	13298.36
40 Ca # 1	-0.09968	-0.09968	ug/l	252.71	81000.00		25170.66	25925.01	25691.38
47 Ti # 3	-0.06654	-0.06654	ug/l	21.04	1620.00		23.33	36.67	56.67
51 V # 2	0.03475	0.03475	ug/l	8.70	1800.00		342.23	340.01	330.01
52 Cr # 2	-0.0181	-0.0181	ug/l	16.32	1800.00		275.56	276.67	295.56
55 Mn # 3	-0.01017	-0.01017	ug/l	55.62	1800.00		1416.77	1213.41	1373.43
56 Fe # 1	-0.094	-0.094	ug/l	29.88	81000.00		3623.81	3680.47	3730.50
59 Co # 3	-0.0006014	-0.0006014	ug/l	171.93	1800.00		80.00	60.00	50.00
60 Ni # 2	-0.006729	-0.006729	ug/l	86.66	1800.00		42.22	37.78	52.22
63 Cu # 2	-0.03554	-0.03554	ug/l	11.48	1800.00		333.34	317.78	346.67
66 Zn # 3	-0.09142	-0.09142	ug/l	38.76	1800.00		543.36	453.35	393.35
75 As # 2	0.02016	0.02016	ug/l	50.84	100.00		25.67	18.67	24.00
78 Se # 1	0.01478	0.01478	ug/l	48.34	100.00		23.33	28.67	24.67
88 Sr # 3	-0.00104	-0.00104	ug/l	37.35	1800.00		150.00	130.00	136.67
95 Mo # 3	-0.002285	-0.002285	ug/l	154.22	1800.00		120.00	96.67	123.34
107 Ag # 3	-0.00327	-0.00327	ug/l	27.46	100.00		83.34	90.00	103.34
111 Cd # 3	-0.000526	-0.000526	ug/l	383.84	100.00		6.64	-0.02	9.97
118 Sn # 3	0.08216	0.08216	ug/l	6.75	1800.00		1453.44	1410.10	1356.76
121 Sb # 3	8.118E-005	8.118E-005	ug/l	1123.80	100.00		46.67	50.00	33.33
137 Ba # 3	0.0011	0.0011	ug/l	86.65	1800.00		43.34	43.33	50.00
202 Hg # 3	-0.01363	-0.01363	ug/l	20.80	5.00		83.34	94.67	77.00
205 Tl # 3	-0.005836	-0.005836	ug/l	3.07	20.00		46.67	36.67	43.33
208 Pb # 3	-0.01638	-0.01638	ug/l	8.47	1800.00		920.04	820.04	840.04
232 Th # 3	0.007892	0.007892	ug/l	16.04	#VALUE!		633.37	553.36	660.04
238 U # 3	8.87E-006	8.87E-006	ug/l	1289.30	#VALUE!		26.67	30.00	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444132.66	0.20	442436.88	100.4	60 - 125		445146.28	443801.59	443450.09
45 Sc # 1	457357.66	7.74	456299.72	100.2	60 - 125		416636.69	474665.34	480770.94
45 Sc # 3	794759.63	0.96	765061.25	103.9	60 - 125		787525.19	793983.44	802770.31
74 Ge # 1	158413.94	4.95	153441.28	103.2	60 - 125		149383.53	163576.14	162282.14
74 Ge # 2	47631.90	0.60	47804.94	99.6	60 - 125		47329.96	47673.10	47892.63
74 Ge # 3	232409.16	0.52	224564.78	103.5	60 - 125		231050.36	233339.14	232838.02
89 Y # 3	1354428.10	0.33	1302847.50	104.0	60 - 125		1355631.60	1358126.00	1349526.50
115 In # 3	1413167.50	0.35	1366177.60	103.4	60 - 125		1416203.90	1415765.10	1407533.30
159 Tb # 3	2061454.40	0.48	2052817.90	100.4	60 - 125		2060274.10	2052273.10	2071815.60
209 Bi # 3	1381956.60	0.63	1405468.50	98.3	60 - 125		1379429.60	1374847.10	1391593.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\030SMPL.D\030SMPL.D#
 Date Acquired: Aug 24 2014 01:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-5
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-6.56E-007	-6.56E-007	ug/l	152390.00	100.00		3.33	0.00	0.00
11 B # 3	2.491	2.491	ug/l	5.97	1800.00		6024.43	6441.24	6141.12
23 Na # 1	-1.305	-1.305	ug/l	17.74	81000.00		97934.43	97971.32	96828.86
24 Mg # 1	-0.1909	-0.1909	ug/l	6.95	81000.00		640.03	656.70	706.71
27 Al # 1	-0.2159	-0.2159	ug/l	10.89	81000.00		1183.40	1063.39	1046.73
39 K # 2	-2.39	-2.39	ug/l	19.88	81000.00		12484.53	12807.95	12764.65
40 Ca # 1	-0.2261	-0.2261	ug/l	12.17	81000.00		25968.35	26181.98	26115.16
47 Ti # 3	-0.05968	-0.05968	ug/l	31.84	1620.00		50.00	66.67	23.33
51 V # 2	0.02953	0.02953	ug/l	6.99	1800.00		326.67	317.78	327.78
52 Cr # 2	-0.01505	-0.01505	ug/l	19.67	1800.00		282.23	301.12	297.78
55 Mn # 3	-0.005583	-0.005583	ug/l	113.06	1800.00		1373.42	1340.09	1583.45
56 Fe # 1	-0.09908	-0.09908	ug/l	4.17	81000.00		3870.51	3830.51	3793.83
59 Co # 3	-0.0001822	-0.0001822	ug/l	310.04	1800.00		66.67	63.34	80.00
60 Ni # 2	-0.008322	-0.008322	ug/l	65.27	1800.00		46.67	45.56	34.44
63 Cu # 2	-0.04128	-0.04128	ug/l	11.98	1800.00		333.34	305.56	303.34
66 Zn # 3	-0.05797	-0.05797	ug/l	86.56	1800.00		543.36	646.69	426.68
75 As # 2	0.02453	0.02453	ug/l	43.46	100.00		21.00	28.67	23.67
78 Se # 1	0.008308	0.008308	ug/l	175.49	100.00		23.00	21.00	29.00
88 Sr # 3	-0.001402	-0.001402	ug/l	55.09	1800.00		123.34	113.34	153.34
95 Mo # 3	-0.003594	-0.003594	ug/l	151.09	1800.00		93.34	96.67	133.34
107 Ag # 3	-0.004699	-0.004699	ug/l	34.52	100.00		86.67	86.67	53.33
111 Cd # 3	-0.0005343	-0.0005343	ug/l	376.01	100.00		9.98	6.65	-0.03
118 Sn # 3	0.07341	0.07341	ug/l	10.64	1800.00		1396.77	1270.09	1343.43
121 Sb # 3	0.0002043	0.0002043	ug/l	869.31	100.00		46.67	26.67	60.00
137 Ba # 3	-0.003391	-0.003391	ug/l	61.04	1800.00		33.33	30.00	16.67
202 Hg # 3	-0.01616	-0.01616	ug/l	26.43	5.00		64.00	75.34	92.00
205 Tl # 3	-0.005923	-0.005923	ug/l	7.30	20.00		30.00	36.67	53.34
208 Pb # 3	-0.01579	-0.01579	ug/l	12.40	1800.00		910.04	813.37	936.71
232 Th # 3	0.006272	0.006272	ug/l	5.88	#VALUE!		553.36	566.70	540.03
238 U # 3	-9.95E-005	-9.95E-005	ug/l	134.34	#VALUE!		33.33	23.33	23.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444020.78	0.16	442436.88	100.4	60 - 125		444703.75	443309.72	444048.78
45 Sc # 1	480622.31	0.37	456299.72	105.3	60 - 125		481882.75	478615.91	481368.25
45 Sc # 3	794943.13	1.00	765061.25	103.9	60 - 125		791188.50	789579.56	804061.25
74 Ge # 1	162269.84	0.73	153441.28	105.8	60 - 125		163345.13	161001.06	162463.30
74 Ge # 2	47786.02	0.07	47804.94	100.0	60 - 125		47759.99	47825.71	47772.35
74 Ge # 3	233341.45	0.74	224564.78	103.9	60 - 125		231360.47	234066.97	234596.92
89 Y # 3	1360698.10	0.57	1302847.50	104.4	60 - 125		1351957.10	1363475.40	1366661.90
115 In # 3	1412707.60	0.45	1366177.60	103.4	60 - 125		1418536.30	1413747.30	1405839.60
159 Tb # 3	2072282.30	1.25	2052817.90	100.9	60 - 125		2053376.60	2101748.80	2061721.60
209 Bi # 3	1394303.00	0.38	1405468.50	99.2	60 - 125		1392910.90	1389863.60	1400134.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\031SMPL.D\031SMPL.D#
 Date Acquired: Aug 24 2014 01:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-6
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	2.114	2.114	ug/l	4.94	1800.00		5854.36	5600.93	5600.94
23 Na # 1	-1.015	-1.015	ug/l	18.51	81000.00		98724.50	98142.06	98730.86
24 Mg # 1	-0.2022	-0.2022	ug/l	2.72	81000.00		620.03	653.36	640.03
27 Al # 1	-0.2061	-0.2061	ug/l	4.61	81000.00		1113.40	1103.40	1163.40
39 K # 2	-1.471	-1.471	ug/l	40.88	81000.00		12871.34	12921.39	13001.47
40 Ca # 1	-0.2546	-0.2546	ug/l	17.38	81000.00		25998.29	25571.11	25995.03
47 Ti # 3	-0.0723	-0.0723	ug/l	2.68	1620.00		30.00	33.33	33.33
51 V # 2	0.03277	0.03277	ug/l	30.42	1800.00		346.67	340.01	305.56
52 Cr # 2	-0.01104	-0.01104	ug/l	26.50	1800.00		307.78	307.78	300.01
55 Mn # 3	-0.007507	-0.007507	ug/l	19.70	1800.00		1366.76	1433.43	1406.76
56 Fe # 1	-0.1069	-0.1069	ug/l	18.89	81000.00		3627.14	3977.38	3657.14
59 Co # 3	0.001177	0.001177	ug/l	96.01	1800.00		86.67	110.00	76.67
60 Ni # 2	-0.007587	-0.007587	ug/l	91.16	1800.00		35.56	40.00	53.33
63 Cu # 2	-0.03381	-0.03381	ug/l	8.80	1800.00		337.79	343.34	331.12
66 Zn # 3	-0.0947	-0.0947	ug/l	29.69	1800.00		406.68	530.02	446.69
75 As # 2	0.02305	0.02305	ug/l	27.97	100.00		21.67	26.67	23.00
78 Se # 1	0.01207	0.01207	ug/l	59.90	100.00		23.33	25.67	27.33
88 Sr # 3	-0.001643	-0.001643	ug/l	48.59	1800.00		136.67	133.34	100.00
95 Mo # 3	-0.01075	-0.01075	ug/l	21.25	1800.00		80.00	86.67	66.67
107 Ag # 3	-0.00544	-0.00544	ug/l	19.49	100.00		53.34	70.00	76.67
111 Cd # 3	-0.0009499	-0.0009499	ug/l	214.86	100.00		3.32	-0.02	9.99
118 Sn # 3	0.07003	0.07003	ug/l	16.07	1800.00		1310.09	1406.77	1206.75
121 Sb # 3	-0.001069	-0.001069	ug/l	134.05	100.00		40.00	16.67	40.00
137 Ba # 3	-0.0002348	-0.0002348	ug/l	2672.90	1800.00		40.00	66.67	13.33
202 Hg # 3	-0.01669	-0.01669	ug/l	21.82	5.00		84.00	79.00	61.33
205 Tl # 3	-0.005672	-0.005672	ug/l	12.91	20.00		70.00	36.67	33.33
208 Pb # 3	-0.01566	-0.01566	ug/l	16.24	1800.00		773.37	930.04	953.38
232 Th # 3	0.004957	0.004957	ug/l	24.93	#VALUE!		450.02	553.36	496.69
238 U # 3	-0.0001515	-0.0001515	ug/l	178.94	#VALUE!		36.67	23.33	13.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	448160.31	0.39	442436.88	101.3	60 - 125		447096.44	450166.56	447217.84
45 Sc # 1	480049.88	0.52	456299.72	105.2	60 - 125		477234.00	480917.56	481998.03
45 Sc # 3	799584.13	1.16	765061.25	104.5	60 - 125		810245.63	793837.75	794669.13
74 Ge # 1	162661.14	0.12	153441.28	106.0	60 - 125		162887.45	162596.45	162499.50
74 Ge # 2	47498.66	2.05	47804.94	99.4	60 - 125		46387.67	47912.67	48195.65
74 Ge # 3	234799.63	0.52	224564.78	104.6	60 - 125		233561.64	234817.59	236019.66
89 Y # 3	1358858.90	0.72	1302847.50	104.3	60 - 125		1352770.60	1353667.10	1370139.00
115 In # 3	1409956.10	0.88	1366177.60	103.2	60 - 125		1414134.30	1419665.80	1396068.50
159 Tb # 3	2056904.80	0.19	2052817.90	100.2	60 - 125		2052544.50	2060021.30	2058148.80
209 Bi # 3	1398236.50	0.44	1405468.50	99.5	60 - 125		1393563.50	1395848.10	1405298.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\032SMPL.D\032SMPL.D#
 Date Acquired: Aug 24 2014 01:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-7
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0005702	0.0005702	ug/l	348.82	100.00		0.00	0.00	6.67
11 B # 3	1.961	1.961	ug/l	0.78	1800.00		5467.60	5447.56	5454.23
23 Na # 1	0.07585	0.07585	ug/l	2366.50	81000.00		99164.04	98962.50	98493.41
24 Mg # 1	-0.1949	-0.1949	ug/l	24.68	81000.00		720.03	570.03	600.02
27 Al # 1	-0.1646	-0.1646	ug/l	7.86	81000.00		1093.39	1286.75	1260.08
39 K # 2	-1.2	-1.2	ug/l	130.08	81000.00		12617.90	13158.23	13715.31
40 Ca # 1	-0.09088	-0.09088	ug/l	215.23	81000.00		25674.53	26609.24	25908.28
47 Ti # 3	-0.06025	-0.06025	ug/l	20.81	1620.00		43.33	63.34	33.33
51 V # 2	0.0341	0.0341	ug/l	9.20	1800.00		330.01	338.90	345.56
52 Cr # 2	-0.01611	-0.01611	ug/l	26.46	1800.00		296.67	272.23	305.56
55 Mn # 3	-0.008449	-0.008449	ug/l	41.26	1800.00		1306.75	1403.43	1460.10
56 Fe # 1	-0.1184	-0.1184	ug/l	20.38	81000.00		3503.77	3577.12	3470.42
59 Co # 3	5.87E-005	5.87E-005	ug/l	173.76	1800.00		73.34	76.67	73.34
60 Ni # 2	-0.01261	-0.01261	ug/l	17.46	1800.00		34.44	36.67	40.00
63 Cu # 2	-0.04514	-0.04514	ug/l	0.44	1800.00		304.45	297.78	304.45
66 Zn # 3	-0.07212	-0.07212	ug/l	16.81	1800.00		536.69	490.02	513.36
75 As # 2	0.01025	0.01025	ug/l	22.88	100.00		19.33	20.00	18.67
78 Se # 1	0.006349	0.006349	ug/l	168.22	100.00		19.67	27.00	23.67
88 Sr # 3	-0.001951	-0.001951	ug/l	11.56	1800.00		110.00	123.34	113.34
95 Mo # 3	-0.009297	-0.009297	ug/l	73.27	1800.00		116.67	73.34	63.34
107 Ag # 3	-0.005396	-0.005396	ug/l	23.59	100.00		53.34	66.67	83.34
111 Cd # 3	-0.00142	-0.00142	ug/l	159.15	100.00		-0.03	9.98	-0.01
118 Sn # 3	0.07821	0.07821	ug/l	5.96	1800.00		1343.43	1430.10	1376.76
121 Sb # 3	-0.0007518	-0.0007518	ug/l	220.67	100.00		53.34	30.00	23.33
137 Ba # 3	0.001819	0.001819	ug/l	47.05	1800.00		46.67	53.34	46.67
202 Hg # 3	-0.01638	-0.01638	ug/l	2.79	5.00		76.00	77.67	75.34
205 Tl # 3	-0.005764	-0.005764	ug/l	8.37	20.00		36.67	60.00	36.67
208 Pb # 3	-0.01749	-0.01749	ug/l	9.57	1800.00		743.37	863.37	860.04
232 Th # 3	0.003323	0.003323	ug/l	16.37	#VALUE!		453.35	413.35	426.69
238 U # 3	-0.0003048	-0.0003048	ug/l	15.04	#VALUE!		16.67	16.67	20.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	448382.59	0.29	442436.88	101.3	60 - 125		447949.84	449857.75	447340.25
45 Sc # 1	463974.88	5.97	456299.72	101.7	60 - 125		432118.53	477284.56	482521.56
45 Sc # 3	802081.63	1.43	765061.25	104.8	60 - 125		808912.44	808444.94	788887.56
74 Ge # 1	159600.38	3.67	153441.28	104.0	60 - 125		152829.44	162988.80	162982.86
74 Ge # 2	47990.25	1.06	47804.94	100.4	60 - 125		48265.75	47405.79	48299.22
74 Ge # 3	235908.77	0.71	224564.78	105.1	60 - 125		234065.98	237364.58	236295.78
89 Y # 3	1361623.90	1.16	1302847.50	104.5	60 - 125		1343540.60	1372302.10	1369028.80
115 In # 3	1421406.50	0.47	1366177.60	104.0	60 - 125		1415618.10	1428617.90	1419983.50
159 Tb # 3	2071484.50	0.75	2052817.90	100.9	60 - 125		2057166.30	2069275.80	2088011.90
209 Bi # 3	1396573.40	0.70	1405468.50	99.4	60 - 125		1390964.60	1407828.00	1390927.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\033SMPL.D\033SMPL.D#
 Date Acquired: Aug 24 2014 02:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-8
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B #3	1.718	1.718	ug/l	5.06	1800.00		5094.13	4967.42	5210.81
23 Na #1	-1.195	-1.195	ug/l	18.68	81000.00		98792.08	97260.57	98932.19
24 Mg #1	-0.182	-0.182	ug/l	2.87	81000.00		710.03	686.70	683.36
27 Al #1	-0.1707	-0.1707	ug/l	24.84	81000.00		1393.43	1180.07	1150.06
39 K #2	-0.7217	-0.7217	ug/l	47.92	81000.00		13214.94	13201.66	13425.08
40 Ca #1	-0.2078	-0.2078	ug/l	32.02	81000.00		26572.58	26602.62	25758.09
47 Ti #3	-0.06763	-0.06763	ug/l	6.49	1620.00		33.33	43.33	36.67
51 V #2	0.0369	0.0369	ug/l	11.48	1800.00		352.23	335.56	345.56
52 Cr #2	-0.009781	-0.009781	ug/l	11.98	1800.00		302.23	314.45	317.78
55 Mn #3	-0.00809	-0.00809	ug/l	40.69	1800.00		1463.44	1323.41	1393.42
56 Fe #1	-0.09685	-0.09685	ug/l	28.52	81000.00		4127.23	3600.46	3870.51
59 Co #3	-0.0003672	-0.0003672	ug/l	443.08	1800.00		93.34	43.33	66.67
60 Ni #2	-0.00301	-0.00301	ug/l	163.85	1800.00		41.11	52.22	53.33
63 Cu #2	-0.04163	-0.04163	ug/l	15.04	1800.00		296.67	337.78	304.45
66 Zn #3	-0.05503	-0.05503	ug/l	118.15	1800.00		466.69	466.69	716.70
75 As #2	0.01046	0.01046	ug/l	16.72	100.00		19.00	20.00	19.00
78 Se #1	0.003058	0.003058	ug/l	178.48	100.00		22.33	24.67	22.00
88 Sr #3	-0.001607	-0.001607	ug/l	41.27	1800.00		143.34	110.00	120.01
95 Mo #3	-0.01394	-0.01394	ug/l	9.60	1800.00		63.34	60.00	70.00
107 Ag #3	-0.006107	-0.006107	ug/l	31.70	100.00		40.00	53.34	83.34
111 Cd #3	-7.22E-005	-7.22E-005	ug/l	3178.70	100.00		9.99	-0.01	9.98
118 Sn #3	0.0655	0.0655	ug/l	9.95	1800.00		1266.75	1233.41	1316.76
121 Sb #3	-0.002012	-0.002012	ug/l	17.78	100.00		26.67	20.00	23.33
137 Ba #3	0.001112	0.001112	ug/l	106.83	1800.00		40.00	50.00	46.67
202 Hg #3	-0.0199	-0.0199	ug/l	15.15	5.00		71.67	53.67	68.34
205 Tl #3	-0.005525	-0.005525	ug/l	4.40	20.00		53.34	56.67	43.33
208 Pb #3	-0.01546	-0.01546	ug/l	38.45	1800.00		806.70	1163.90	726.70
232 Th #3	0.002948	0.002948	ug/l	16.93	#VALUE!		390.02	436.69	416.69
238 U #3	-0.0002267	-0.0002267	ug/l	20.86	#VALUE!		23.33	20.00	20.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	448886.28	0.63	442436.88	101.5	60 - 125		445712.38	451098.78	449847.69
45 Sc #1	482302.41	0.15	456299.72	105.7	60 - 125		483084.97	481658.53	482163.72
45 Sc #3	800630.81	0.50	765061.25	104.6	60 - 125		804914.13	799983.94	796994.38
74 Ge #1	163370.31	0.42	153441.28	106.5	60 - 125		163918.78	162609.58	163582.56
74 Ge #2	47795.68	1.52	47804.94	100.0	60 - 125		47057.20	47820.16	48509.70
74 Ge #3	235266.89	0.26	224564.78	104.8	60 - 125		235862.91	234636.06	235301.73
89 Y #3	1360037.40	0.58	1302847.50	104.4	60 - 125		1353494.40	1357823.50	1368794.40
115 In #3	1411180.10	0.76	1366177.60	103.3	60 - 125		1411969.40	1421523.90	1400047.40
159 Tb #3	2069043.30	0.67	2052817.90	100.8	60 - 125		2056455.00	2083987.60	2066687.60
209 Bi #3	1392627.30	0.64	1405468.50	99.1	60 - 125		1383620.40	1401507.60	1392753.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\034SMPL.D\034SMPL.D#
 Date Acquired: Aug 24 2014 02:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-9
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	1.498	1.498	ug/l	7.32	1800.00		4954.10	4780.71	4607.32
23 Na # 1	-1.19	-1.19	ug/l	11.24	81000.00		98045.28	97267.63	98266.14
24 Mg # 1	-0.166	-0.166	ug/l	15.08	81000.00		746.70	786.70	660.03
27 Al # 1	-0.1762	-0.1762	ug/l	9.23	81000.00		1166.74	1233.41	1253.41
39 K # 2	-1.423	-1.423	ug/l	30.04	81000.00		13118.31	12717.93	13154.91
40 Ca # 1	-0.1527	-0.1527	ug/l	28.47	81000.00		26552.48	26282.16	26882.94
47 Ti # 3	-0.07408	-0.07408	ug/l	13.29	1620.00		23.33	43.33	23.33
51 V # 2	0.04004	0.04004	ug/l	7.60	1800.00		346.67	358.90	351.12
52 Cr # 2	-0.01703	-0.01703	ug/l	13.92	1800.00		287.78	291.12	280.01
55 Mn # 3	-0.007493	-0.007493	ug/l	53.42	1800.00		1343.42	1490.10	1350.09
56 Fe # 1	-0.09047	-0.09047	ug/l	20.15	81000.00		3950.55	3713.83	4053.89
59 Co # 3	-0.0003264	-0.0003264	ug/l	227.08	1800.00		80.00	60.00	63.34
60 Ni # 2	-0.009989	-0.009989	ug/l	70.43	1800.00		38.89	48.89	32.22
63 Cu # 2	-0.04855	-0.04855	ug/l	8.25	1800.00		300.01	290.00	275.56
66 Zn # 3	-0.04401	-0.04401	ug/l	4.77	1800.00		560.03	573.36	576.69
75 As # 2	0.006861	0.006861	ug/l	169.65	100.00		16.00	15.00	23.00
78 Se # 1	-0.0003518	-0.0003518	ug/l	1252.70	100.00		23.67	21.00	21.67
88 Sr # 3	-0.001849	-0.001849	ug/l	19.01	1800.00		113.34	130.00	113.34
95 Mo # 3	-0.01144	-0.01144	ug/l	54.90	1800.00		50.00	73.34	103.34
107 Ag # 3	-0.005494	-0.005494	ug/l	13.30	100.00		56.67	73.34	70.00
111 Cd # 3	-0.0001043	-0.0001043	ug/l	1249.30	100.00		6.66	3.32	9.98
118 Sn # 3	0.06673	0.06673	ug/l	5.93	1800.00		1283.42	1326.76	1266.76
121 Sb # 3	-0.001452	-0.001452	ug/l	14.04	100.00		30.00	26.67	30.00
137 Ba # 3	0.002079	0.002079	ug/l	173.30	1800.00		46.67	66.67	36.67
202 Hg # 3	-0.01969	-0.01969	ug/l	9.90	5.00		66.00	70.34	58.33
205 Tl # 3	-0.005951	-0.005951	ug/l	6.58	20.00		43.33	46.67	26.67
208 Pb # 3	-0.01795	-0.01795	ug/l	5.77	1800.00		796.70	756.70	843.37
232 Th # 3	0.002287	0.002287	ug/l	31.80	#VALUE!		413.35	386.68	360.02
238 U # 3	-0.0001485	-0.0001485	ug/l	170.71	#VALUE!		36.67	20.00	16.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	451299.94	0.41	442436.88	102.0	60 - 125		452873.59	449281.13	451745.09
45 Sc # 1	479916.31	0.41	456299.72	105.2	60 - 125		482182.75	478449.16	479117.00
45 Sc # 3	795793.56	0.99	765061.25	104.0	60 - 125		787653.88	796318.81	803408.06
74 Ge # 1	163875.38	0.63	153441.28	106.8	60 - 125		164896.59	162816.78	163912.75
74 Ge # 2	47664.97	0.80	47804.94	99.7	60 - 125		47692.06	47268.76	48034.08
74 Ge # 3	233444.61	0.74	224564.78	104.0	60 - 125		231505.63	233988.30	234839.89
89 Y # 3	1369101.60	1.28	1302847.50	105.1	60 - 125		1349643.40	1373835.60	1383825.90
115 In # 3	1422191.40	0.41	1366177.60	104.1	60 - 125		1415761.60	1423678.50	1427134.30
159 Tb # 3	2057211.40	0.59	2052817.90	100.2	60 - 125		2049542.60	2050806.90	2071284.50
209 Bi # 3	1392659.40	0.94	1405468.50	99.1	60 - 125		1378430.30	1395507.50	1404040.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\035SMPL.D\035SMPL.D#
 Date Acquired: Aug 24 2014 02:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: IDL-0
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-1.49E-005	-1.49E-005	ug/l	6526.40	100.00		0.00	0.00	3.33
11 B # 3	1.395	1.395	ug/l	6.37	1800.00		4433.95	4727.35	4740.68
23 Na # 1	-1.606	-1.606	ug/l	6.76	81000.00		96741.64	95391.55	95991.22
24 Mg # 1	-0.2022	-0.2022	ug/l	13.97	81000.00		626.69	710.03	570.02
27 Al # 1	-0.1954	-0.1954	ug/l	11.82	81000.00		1076.73	1193.40	1196.74
39 K # 2	-1.234	-1.234	ug/l	61.36	81000.00		12677.91	13128.27	13218.36
40 Ca # 1	-0.2001	-0.2001	ug/l	40.91	81000.00		25557.73	26295.51	26622.63
47 Ti # 3	-0.04973	-0.04973	ug/l	38.33	1620.00		46.67	83.35	46.67
51 V # 2	0.0214	0.0214	ug/l	32.48	1800.00		282.23	293.34	323.34
52 Cr # 2	-0.0118	-0.0118	ug/l	35.08	1800.00		287.78	301.12	318.90
55 Mn # 3	-0.008666	-0.008666	ug/l	55.80	1800.00		1360.09	1283.41	1476.77
56 Fe # 1	-0.1053	-0.1053	ug/l	10.50	81000.00		3703.81	3683.80	3883.97
59 Co # 3	-0.001431	-0.001431	ug/l	63.81	1800.00		63.34	53.34	36.67
60 Ni # 2	-0.006293	-0.006293	ug/l	86.56	1800.00		36.67	48.89	47.78
63 Cu # 2	-0.0515	-0.0515	ug/l	6.72	1800.00		265.56	274.45	292.23
66 Zn # 3	-0.09428	-0.09428	ug/l	11.86	1800.00		483.35	450.02	446.68
75 As # 2	0.002203	0.002203	ug/l	217.61	100.00		14.33	17.67	16.67
78 Se # 1	-0.008542	-0.008542	ug/l	84.51	100.00		17.67	21.67	19.67
88 Sr # 3	-0.001272	-0.001272	ug/l	78.59	1800.00		120.00	163.34	113.34
95 Mo # 3	-0.0142	-0.0142	ug/l	28.41	1800.00		80.00	63.34	46.67
107 Ag # 3	-0.004112	-0.004112	ug/l	45.09	100.00		106.67	66.67	73.34
111 Cd # 3	0.01398	0.01398	ug/l	174.11	100.00		6.65	6.65	113.41
118 Sn # 3	0.05389	0.05389	ug/l	12.42	1800.00		1236.75	1160.08	1143.40
121 Sb # 3	-0.001079	-0.001079	ug/l	113.72	100.00		20.00	43.33	33.33
137 Ba # 3	0.0005816	0.0005816	ug/l	589.06	1800.00		36.67	33.33	60.00
202 Hg # 3	-0.02259	-0.02259	ug/l	14.37	5.00		52.00	67.34	47.67
205 Tl # 3	-0.006158	-0.006158	ug/l	5.18	20.00		23.33	36.67	40.00
208 Pb # 3	0.0006691	0.0006691	ug/l	4737.70	1800.00		2929.75	813.37	813.37
232 Th # 3	0.001277	0.001277	ug/l	71.14	#VALUE!		303.35	386.68	350.02
238 U # 3	-0.0001779	-0.0001779	ug/l	43.65	#VALUE!		23.33	20.00	26.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	452369.94	0.88	442436.88	102.2	60 - 125		448126.13	452990.50	455993.16
45 Sc # 1	478512.09	0.41	456299.72	104.9	60 - 125		479708.47	476237.13	479590.75
45 Sc # 3	805035.75	2.15	765061.25	105.2	60 - 125		806537.81	787038.13	821531.31
74 Ge # 1	162974.64	0.24	153441.28	106.2	60 - 125		163433.30	162741.97	162748.67
74 Ge # 2	47463.69	0.83	47804.94	99.3	60 - 125		47353.44	47137.30	47900.33
74 Ge # 3	233866.53	0.93	224564.78	104.1	60 - 125		231355.44	235252.16	234991.97
89 Y # 3	1347590.40	0.71	1302847.50	103.4	60 - 125		1346378.40	1357644.80	1338748.30
115 In # 3	1410845.80	0.29	1366177.60	103.3	60 - 125		1406710.90	1410888.40	1414937.60
159 Tb # 3	2069798.80	0.75	2052817.90	100.8	60 - 125		2083020.40	2052694.50	2073681.40
209 Bi # 3	1398891.00	1.15	1405468.50	99.5	60 - 125		1380714.90	1411603.80	1404354.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\036_CCV.D\036_CCV.D#
 Date Acquired: Aug 24 2014 02:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.03 ug/l	0.38	50.00	89.5 - 110		96586.61	97946.26	97544.02
11 B	100.6 ug/l	0.40	100.00	89.5 - 110		156204.55	157027.75	155610.83
23 Na	5684 ug/l	12.45	5000.00	89.5 - 110	Fail	19625206.00	19584216.00	19633758.00
24 Mg	5699 ug/l	12.11	5000.00	89.5 - 110	Fail	13693286.00	13753431.00	13745121.00
27 Al	575.9 ug/l	12.92	500.00	89.5 - 110	Fail	1658698.30	1630828.50	1653094.10
39 K	5005 ug/l	0.14	5000.00	89.5 - 110		1791517.30	1809533.30	1815382.30
40 Ca	5739 ug/l	12.31	5000.00	89.5 - 110	Fail	38009792.00	37717432.00	38286680.00
47 Ti	49.52 ug/l	1.49	50.00	89.5 - 110		60608.17	59665.41	60504.54
51 V	50.26 ug/l	0.74	50.00	89.5 - 110		139820.14	139296.28	141615.52
52 Cr	50.4 ug/l	0.29	50.00	89.5 - 110		169233.98	171308.55	170855.39
55 Mn	510.1 ug/l	1.25	500.00	89.5 - 110		10357093.00	10391991.00	10459768.00
56 Fe	5772 ug/l	13.98	5000.00	89.5 - 110	Fail	50688228.00	49338432.00	49366384.00
59 Co	49.8 ug/l	1.65	50.00	89.5 - 110		762214.88	767599.25	777032.13
60 Ni	51.41 ug/l	1.18	50.00	89.5 - 110		64782.40	64432.35	63955.14
63 Cu	49.76 ug/l	0.29	50.00	89.5 - 110		170492.59	171785.56	171429.03
66 Zn	49.53 ug/l	1.65	50.00	89.5 - 110		111130.82	111395.67	112945.24
75 As	50.61 ug/l	0.27	50.00	89.5 - 110		18442.96	18497.33	18634.81
78 Se	54.68 ug/l	10.53	50.00	89.5 - 110		14970.82	14622.21	14709.94
88 Sr	49.13 ug/l	0.57	50.00	89.5 - 110		1307527.60	1310292.30	1309329.10
95 Mo	50.07 ug/l	0.46	50.00	89.5 - 110		209642.55	210145.22	211144.25
107 Ag	48.89 ug/l	0.32	50.00	89.5 - 110		571194.31	574269.38	576219.81
111 Cd	50.19 ug/l	0.68	50.00	89.5 - 110		127180.88	127465.41	127253.95
118 Sn	50.01 ug/l	0.56	50.00	89.5 - 110		397689.25	401042.91	399006.06
121 Sb	49.41 ug/l	0.72	50.00	89.5 - 110		471031.97	474372.22	471078.78
137 Ba	49.04 ug/l	1.17	50.00	89.5 - 110		208218.17	206994.52	206502.75
202 Hg	2.486 ug/l	1.07	2.50	89.5 - 110		8333.52	8316.52	8522.97
205 Tl	9.816 ug/l	0.40	10.00	89.5 - 110		275097.88	276713.19	276990.88
208 Pb	49.22 ug/l	0.24	50.00	89.5 - 110		1880260.00	1885647.00	1893994.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	449879.63	0.35	442436.88	101.7	60 - 125		448265.94	451459.41	449913.53
45 Sc	450822.53	11.61	456299.72	98.8	60 - 125		391234.50	471859.13	489374.00
45 Sc	825355.19	0.83	765061.25	107.9	60 - 125		828211.56	830321.25	817532.81
74 Ge	156462.73	8.80	153441.28	102.0	60 - 125		140570.36	164098.31	164719.55
74 Ge	48114.27	0.55	47804.94	100.6	60 - 125		47817.91	48194.43	48330.45
74 Ge	237939.39	0.89	224564.78	106.0	60 - 125		237686.64	240171.72	235959.89
89 Y	1371174.30	0.57	1302847.50	105.2	60 - 125		1373168.90	1377762.10	1362591.90
115 In	1417652.40	0.74	1366177.60	103.8	60 - 125		1405842.50	1421446.30	1425668.50
159 Tb	2077467.30	0.32	2052817.90	101.2	60 - 125		2075836.30	2071709.40	2084856.30
209 Bi	1367763.30	0.65	1405468.50	97.3	60 - 125		1376211.10	1358563.80	1368514.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

5 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\037_CCB.D\037_CCB.D#
 Date Acquired: Aug 24 2014 02:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	-0.0005782	-0.0005782	ug/l	0.00	#VALUE!		0.00	0.00	0.00
11 B #3	2.421	2.421	ug/l	3.07	#VALUE!		6197.81	6357.84	6127.78
23 Na #1	-1.184	-1.184	ug/l	21.64	#VALUE!		97804.03	97981.22	97002.63
24 Mg #1	-0.09848	-0.09848	ug/l	26.23	#VALUE!		940.05	940.05	830.04
27 Al #1	-0.1907	-0.1907	ug/l	8.72	#VALUE!		1180.07	1210.08	1120.07
39 K #2	-1.896	-1.896	ug/l	39.29	#VALUE!		12547.80	12731.25	13101.56
40 Ca #1	-0.1566	-0.1566	ug/l	68.39	#VALUE!		26068.53	27206.90	26121.92
47 Ti #3	-0.06208	-0.06208	ug/l	5.87	#VALUE!		46.67	40.00	46.67
51 V #2	0.02665	0.02665	ug/l	17.69	#VALUE!		317.78	325.56	300.01
52 Cr #2	-0.01816	-0.01816	ug/l	30.69	#VALUE!		260.00	297.78	287.78
55 Mn #3	-0.004171	-0.004171	ug/l	19.06	#VALUE!		1483.44	1463.43	1496.78
56 Fe #1	0.3093	0.3093	ug/l	15.36	#VALUE!		8075.30	7161.60	7551.78
59 Co #3	-0.001043	-0.001043	ug/l	95.56	#VALUE!		40.00	66.67	66.67
60 Ni #2	-0.008132	-0.008132	ug/l	84.37	#VALUE!		50.00	43.33	33.33
63 Cu #2	-0.05314	-0.05314	ug/l	10.45	#VALUE!		285.56	280.00	251.12
66 Zn #3	-0.08538	-0.08538	ug/l	0.59	#VALUE!		483.35	486.69	486.69
75 As #2	0.01104	0.01104	ug/l	54.11	#VALUE!		18.00	22.00	18.33
78 Se #1	0.02341	0.02341	ug/l	71.34	#VALUE!		34.00	26.67	25.33
88 Sr #3	-0.002079	-0.002079	ug/l	52.96	#VALUE!		143.34	103.34	90.00
95 Mo #3	0.03627	0.03627	ug/l	33.66	#VALUE!		326.68	276.68	226.67
107 Ag #3	-0.001167	-0.001167	ug/l	96.32	#VALUE!		110.00	133.34	110.00
111 Cd #3	0.001622	0.001622	ug/l	93.53	#VALUE!		13.26	6.61	13.28
118 Sn #3	0.1043	0.1043	ug/l	14.20	#VALUE!		1466.77	1600.12	1720.14
121 Sb #3	0.01346	0.01346	ug/l	24.38	#VALUE!		136.67	180.01	200.01
137 Ba #3	0.0007592	0.0007592	ug/l	322.58	#VALUE!		53.34	46.67	33.33
202 Hg #3	-0.003146	-0.003146	ug/l	96.69	#VALUE!		127.00	109.00	120.67
205 Tl #3	-0.003544	-0.003544	ug/l	15.70	#VALUE!		96.67	123.34	96.67
208 Pb #3	-0.01836	-0.01836	ug/l	3.91	#VALUE!		783.37	796.70	760.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	453598.06	0.44	442436.88	102.5	60 - 125		451282.97	454777.66	454733.63
45 Sc #1	478520.56	0.47	456299.72	104.9	60 - 125		478967.28	476100.19	480494.28
45 Sc #3	803377.31	1.16	765061.25	105.0	60 - 125		794937.75	813420.31	801773.94
74 Ge #1	162801.53	0.27	153441.28	106.1	60 - 125		162565.81	162521.66	163317.11
74 Ge #2	47534.24	0.36	47804.94	99.4	60 - 125		47347.81	47688.68	47566.23
74 Ge #3	236687.66	0.20	224564.78	105.4	60 - 125		236196.66	236740.80	237125.47
89 Y #3	1365229.90	1.24	1302847.50	104.8	60 - 125		1346245.10	1378967.30	1370477.10
115 In #3	1424289.80	0.55	1366177.60	104.3	60 - 125		1415397.90	1427300.40	1430171.00
159 Tb #3	2049711.30	1.49	2052817.90	99.8	60 - 125		2019077.90	2050004.80	2080051.30
209 Bi #3	1392924.60	0.41	1405468.50	99.1	60 - 125		1391091.30	1388361.50	1399321.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\038SMPL.D\038SMPL.D#
 Date Acquired: Aug 24 2014 02:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344712_1-a
 Misc Info: 3005 1/5
 Vial Number: 4404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	1.979	1.979	ug/l	1.33	1800.00		5560.94	5527.60	5597.61
23 Na # 1	-0.3297	-0.3297	ug/l	71.76	81000.00		100976.38	100808.36	99836.53
24 Mg # 1	0.1872	0.1872	ug/l	14.49	81000.00		1720.12	1586.79	1606.78
27 Al # 1	0.8864	0.8864	ug/l	1.18	81000.00		4470.64	4410.62	4503.98
39 K # 2	1.132	1.132	ug/l	52.39	81000.00		13491.83	13495.14	13982.17
40 Ca # 1	4.739	4.739	ug/l	2.19	81000.00		60296.59	61072.02	61817.93
47 Ti # 3	0.00899	0.00899	ug/l	270.41	1620.00		153.36	123.34	100.00
51 V # 2	0.1532	0.1532	ug/l	6.86	1800.00		675.57	634.46	647.80
52 Cr # 2	-0.003537	-0.003537	ug/l	151.06	1800.00		331.12	306.67	338.90
55 Mn # 3	0.04576	0.04576	ug/l	15.75	1800.00		2540.25	2483.57	2306.87
56 Fe # 1	0.1693	0.1693	ug/l	9.43	81000.00		6134.53	6287.89	6437.94
59 Co # 3	-0.002665	-0.002665	ug/l	12.01	1800.00		26.67	33.33	36.67
60 Ni # 2	0.06808	0.06808	ug/l	10.97	1800.00		131.11	126.67	145.56
63 Cu # 2	0.02205	0.02205	ug/l	20.21	1800.00		508.90	537.79	511.12
66 Zn # 3	0.5373	0.5373	ug/l	3.78	1800.00		1823.48	1880.15	1810.15
75 As # 2	0.04753	0.04753	ug/l	17.24	100.00		35.00	30.67	30.67
78 Se # 1	0.01464	0.01464	ug/l	84.70	100.00		30.00	25.33	23.00
88 Sr # 3	0.002293	0.002293	ug/l	39.98	1800.00		196.67	236.68	243.34
95 Mo # 3	0.001624	0.001624	ug/l	187.38	1800.00		140.00	116.67	130.00
107 Ag # 3	-0.0007285	-0.0007285	ug/l	282.91	100.00		146.67	113.34	103.34
111 Cd # 3	0.0003583	0.0003583	ug/l	561.54	100.00		3.30	13.31	6.64
118 Sn # 3	0.118	0.118	ug/l	4.02	1800.00		1696.81	1693.47	1653.47
121 Sb # 3	0.009134	0.009134	ug/l	26.79	100.00		113.34	116.67	156.67
137 Ba # 3	0.004608	0.004608	ug/l	15.16	1800.00		56.67	63.34	60.00
202 Hg # 3	-0.01793	-0.01793	ug/l	36.94	5.00		53.00	65.00	95.01
205 Tl # 3	-0.005123	-0.005123	ug/l	11.17	20.00		50.00	56.67	80.00
208 Pb # 3	-0.01853	-0.01853	ug/l	2.91	1800.00		796.70	773.37	770.03
232 Th # 3	0.04078	0.04078	ug/l	1.41	#VALUE!		1993.53	1970.19	1950.19
238 U # 3	0.0002942	0.0002942	ug/l	136.10	#VALUE!		33.33	33.33	63.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	454823.38	0.68	442436.88	102.8	60 - 125		451468.13	455396.81	457605.16
45 Sc # 1	477564.50	0.34	456299.72	104.7	60 - 125		478056.69	475728.03	478908.78
45 Sc # 3	786427.44	1.19	765061.25	102.8	60 - 125		778840.13	783549.13	796893.00
74 Ge # 1	162236.44	0.44	153441.28	105.7	60 - 125		162557.11	162739.73	161412.44
74 Ge # 2	46820.18	1.25	47804.94	97.9	60 - 125		46159.26	47023.65	47277.65
74 Ge # 3	231972.83	0.91	224564.78	103.3	60 - 125		229968.14	231755.70	234194.69
89 Y # 3	1347577.50	0.65	1302847.50	103.4	60 - 125		1339193.00	1346946.60	1356592.90
115 In # 3	1404875.00	0.97	1366177.60	102.8	60 - 125		1389399.90	1410030.10	1415195.00
159 Tb # 3	2066002.60	1.16	2052817.90	100.6	60 - 125		2049905.10	2093572.30	2054530.80
209 Bi # 3	1380040.80	0.32	1405468.50	98.2	60 - 125		1381433.60	1375117.80	1383571.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\039SMPL.D\039SMPL.D#
 Date Acquired: Aug 24 2014 02:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-344712_2-a
 Misc Info: 3005 1/5
 Vial Number: 4405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	11.23	11.23	ug/l	1.56	100.00		22616.71	22016.14	22416.56
11 B #3	46.41	46.41	ug/l	0.74	1800.00		75271.90	74080.84	76014.55
23 Na #1	1185	1185	ug/l	0.74	81000.00		4446174.50	4450483.00	4479695.00
24 Mg #1	1204	1204	ug/l	0.11	81000.00		3100406.30	3120554.00	3097577.50
27 Al #1	1189	1189	ug/l	0.69	81000.00		3614755.80	3650542.50	3654297.00
39 K #2	1147	1147	ug/l	0.84	81000.00		404552.38	412191.72	411781.34
40 Ca #1	1228	1228	ug/l	0.69	81000.00		8706699.00	8702394.00	8756979.00
47 Ti #3	22.1	22.1	ug/l	2.70	1620.00		25845.09	26288.92	25661.51
51 V #2	22.77	22.77	ug/l	0.47	1800.00		60833.65	61639.66	61969.64
52 Cr #2	23.25	23.25	ug/l	0.15	1800.00		75513.56	75756.63	76985.98
55 Mn #3	117.7	117.7	ug/l	0.27	1800.00		2314125.50	2345207.50	2340345.30
56 Fe #1	1215	1215	ug/l	0.46	81000.00		11234943.00	11224268.00	11243676.00
59 Co #3	11.48	11.48	ug/l	0.77	1800.00		171875.33	172581.80	172418.17
60 Ni #2	23.71	23.71	ug/l	0.38	1800.00		28588.79	28506.47	29009.41
63 Cu #2	22.9	22.9	ug/l	0.85	1800.00		76331.87	76209.09	76405.75
66 Zn #3	22.64	22.64	ug/l	1.28	1800.00		50045.48	50339.44	49610.96
75 As #2	23.26	23.26	ug/l	1.36	100.00		8165.84	8317.90	8201.84
78 Se #1	23.99	23.99	ug/l	1.59	100.00		6670.90	6637.89	6760.93
88 Sr #3	21.42	21.42	ug/l	1.35	1800.00		561142.94	564159.19	560131.06
95 Mo #3	22.22	22.22	ug/l	0.27	1800.00		92329.24	92151.06	93672.86
107 Ag #3	11.13	11.13	ug/l	0.88	100.00		129551.09	130283.59	129541.37
111 Cd #3	11.25	11.25	ug/l	1.65	100.00		28633.77	28343.26	28009.07
118 Sn #3	45.63	45.63	ug/l	0.69	1800.00		362144.31	361342.69	361318.63
121 Sb #3	11.18	11.18	ug/l	1.25	100.00		105313.02	107063.23	105798.58
137 Ba #3	21.54	21.54	ug/l	1.46	1800.00		89679.69	91408.38	89961.23
202 Hg #3	1.046	1.046	ug/l	2.36	5.00		3607.09	3559.74	3457.05
205 Tl #3	8.869	8.869	ug/l	0.31	20.00		245481.48	244947.19	244817.52
208 Pb #3	11.34	11.34	ug/l	0.40	1800.00		429744.88	427067.38	426831.97
232 Th #3	11.44	11.44	ug/l	0.84	#VALUE!		470450.41	468816.13	466774.78
238 U #3	11.3	11.3	ug/l	1.24	#VALUE!		486208.16	481531.44	478129.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	460161.13	1.21	442436.88	104.0	60 - 125		457436.34	456476.25	466570.81
45 Sc #1	477916.06	0.37	456299.72	104.7	60 - 125		477649.72	479819.63	476278.88
45 Sc #3	794192.50	1.66	765061.25	103.8	60 - 125		786585.19	786536.50	809455.75
74 Ge #1	160262.97	0.64	153441.28	104.4	60 - 125		160327.47	161253.61	159207.78
74 Ge #2	46448.49	0.92	47804.94	97.2	60 - 125		46103.55	46317.43	46924.50
74 Ge #3	231134.55	0.98	224564.78	102.9	60 - 125		228528.06	232554.70	232320.88
89 Y #3	1349837.10	1.12	1302847.50	103.6	60 - 125		1338466.60	1344090.90	1366954.00
115 In #3	1406991.60	0.63	1366177.60	103.0	60 - 125		1403452.60	1400411.00	1417111.40
159 Tb #3	2039538.10	0.31	2052817.90	99.4	60 - 125		2042549.40	2032364.40	2043700.40
209 Bi #3	1370247.90	0.49	1405468.50	97.5	60 - 125		1367536.50	1365269.50	1377937.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\040SMPL.D\040SMPL.D#
 Date Acquired: Aug 24 2014 02:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mdlv 680-344712_26-a
 Misc Info: 3005 1/5
 Vial Number: 4406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.08795	0.08795	ug/l	8.24	100.00		176.67	156.67	183.34
11 B #3	23.35	23.35	ug/l	1.77	1800.00		37356.28	38448.45	38722.11
23 Na #1	43.39	43.39	ug/l	1.76	81000.00		254211.17	256123.13	252421.66
24 Mg #1	15.63	15.63	ug/l	1.76	81000.00		40910.76	39945.26	40118.89
27 Al #1	13.31	13.31	ug/l	1.20	81000.00		41502.06	41502.08	41017.77
39 K #2	27.2	27.2	ug/l	3.59	81000.00		22063.40	22013.30	22607.28
40 Ca #1	63.35	63.35	ug/l	0.73	81000.00		463740.31	464114.94	462300.47
47 Ti #3	0.6073	0.6073	ug/l	6.51	1620.00		743.37	813.37	843.38
51 V #2	2.087	2.087	ug/l	1.38	1800.00		5647.57	5769.83	5872.09
52 Cr #2	1.119	1.119	ug/l	1.62	1800.00		3911.56	3989.35	3871.54
55 Mn #3	1.137	1.137	ug/l	0.97	1800.00		23488.65	23789.04	23612.11
56 Fe #1	15.37	15.37	ug/l	0.95	81000.00		143298.02	143163.19	142186.73
59 Co #3	0.06352	0.06352	ug/l	2.54	1800.00		976.72	1033.39	1010.06
60 Ni #2	1.207	1.207	ug/l	3.14	1800.00		1437.85	1481.18	1544.52
63 Cu #2	0.6257	0.6257	ug/l	1.13	1800.00		2426.85	2510.19	2500.19
66 Zn #3	4.418	4.418	ug/l	1.06	1800.00		10076.30	10156.42	10089.69
75 As #2	0.5932	0.5932	ug/l	5.69	100.00		232.34	214.67	216.67
78 Se #1	0.3392	0.3392	ug/l	4.17	100.00		114.67	119.00	110.67
88 Sr #3	0.2166	0.2166	ug/l	4.13	1800.00		5887.78	5784.45	5581.02
95 Mo #3	0.6288	0.6288	ug/l	1.52	1800.00		2606.93	2726.97	2726.96
107 Ag #3	0.1199	0.1199	ug/l	3.76	100.00		1516.78	1500.11	1470.11
111 Cd #3	0.08399	0.08399	ug/l	14.37	100.00		229.43	179.41	232.74
118 Sn #3	1.241	1.241	ug/l	3.60	1800.00		10486.80	10370.06	10183.25
121 Sb #3	0.3381	0.3381	ug/l	4.57	100.00		3283.74	3063.70	3200.38
137 Ba #3	0.3358	0.3358	ug/l	5.42	1800.00		1466.77	1420.11	1370.10
202 Hg #3	0.2086	0.2086	ug/l	2.20	5.00		816.36	813.03	786.02
205 Tl #3	0.1638	0.1638	ug/l	4.98	20.00		4880.90	4467.44	4750.85
208 Pb #3	0.1104	0.1104	ug/l	2.81	1800.00		5617.24	5707.25	5443.88
232 Th #3	0.1236	0.1236	ug/l	7.34	#VALUE!		5634.52	5471.16	5000.99
238 U #3	0.0006351	0.0006351	ug/l	25.07	#VALUE!		50.00	63.34	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	449754.22	0.27	442436.88	101.7	60 - 125		448386.66	450741.25	450134.78
45 Sc #1	465001.00	0.52	456299.72	101.9	60 - 125		462600.56	464989.84	467412.56
45 Sc #3	768868.00	1.06	765061.25	100.5	60 - 125		759809.88	775733.31	771060.81
74 Ge #1	158582.61	0.33	153441.28	103.4	60 - 125		158174.75	159164.27	158408.84
74 Ge #2	45775.38	0.91	47804.94	95.8	60 - 125		45299.40	46080.25	45946.49
74 Ge #3	227053.36	0.99	224564.78	101.1	60 - 125		224768.53	227144.84	229246.69
89 Y #3	1328544.60	1.33	1302847.50	102.0	60 - 125		1315137.90	1321932.30	1348564.00
115 In #3	1378688.40	1.87	1366177.60	100.9	60 - 125		1353754.80	1377006.50	1405303.90
159 Tb #3	2029197.60	0.35	2052817.90	98.8	60 - 125		2027588.90	2036894.10	2023109.80
209 Bi #3	1375553.90	0.86	1405468.50	97.9	60 - 125		1367987.10	1369485.60	1389189.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\041SMPL.D\041SMPL.D#
 Date Acquired: Aug 24 2014 03:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344685_1-a
 Misc Info: 3010 1/5
 Vial Number: 4407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	2.062	2.062	ug/l	6.81	1800.00		5487.60	5821.02	5390.89
23 Na # 1	-1.355	-1.355	ug/l	4.10	81000.00		92949.42	92497.79	92752.38
24 Mg # 1	0.192	0.192	ug/l	3.88	81000.00		1590.12	1560.11	1593.44
27 Al # 1	1.014	1.014	ug/l	3.35	81000.00		4764.05	4567.35	4614.00
39 K # 2	0.3703	0.3703	ug/l	95.95	81000.00		12874.70	12711.26	12978.16
40 Ca # 1	4.661	4.661	ug/l	1.14	81000.00		57731.92	57895.64	58340.22
47 Ti # 3	-0.01498	-0.01498	ug/l	39.73	1620.00		86.67	100.00	100.01
51 V # 2	0.2131	0.2131	ug/l	1.90	1800.00		792.25	771.13	784.47
52 Cr # 2	0.02242	0.02242	ug/l	10.77	1800.00		404.45	382.23	396.68
55 Mn # 3	0.02358	0.02358	ug/l	13.48	1800.00		1966.82	1980.16	1903.49
56 Fe # 1	0.1477	0.1477	ug/l	13.54	81000.00		5654.35	5847.76	5997.81
59 Co # 3	-0.001474	-0.001474	ug/l	70.56	1800.00		43.33	36.67	66.67
60 Ni # 2	0.03915	0.03915	ug/l	11.38	1800.00		100.00	94.45	91.11
63 Cu # 2	-0.02362	-0.02362	ug/l	13.61	1800.00		356.67	333.34	366.67
66 Zn # 3	0.3047	0.3047	ug/l	10.49	1800.00		1233.41	1376.76	1273.42
75 As # 2	0.06679	0.06679	ug/l	6.13	100.00		36.33	36.33	39.67
78 Se # 1	0.00082	0.00082	ug/l	1709.80	100.00		23.33	23.67	17.00
88 Sr # 3	0.003243	0.003243	ug/l	53.16	1800.00		233.34	296.68	206.67
95 Mo # 3	-0.001306	-0.001306	ug/l	322.43	1800.00		100.00	133.34	110.00
107 Ag # 3	0.002299	0.002299	ug/l	37.37	100.00		163.34	150.01	146.67
111 Cd # 3	0.001762	0.001762	ug/l	244.04	100.00		3.31	6.64	23.31
118 Sn # 3	0.1445	0.1445	ug/l	7.79	1800.00		1926.83	1760.14	1873.50
121 Sb # 3	0.005731	0.005731	ug/l	78.80	100.00		116.67	120.00	46.67
137 Ba # 3	0.01086	0.01086	ug/l	43.65	1800.00		73.34	106.67	73.34
202 Hg # 3	-0.01711	-0.01711	ug/l	26.11	5.00		87.67	61.33	66.33
205 Tl # 3	-0.001675	-0.001675	ug/l	55.20	20.00		170.01	166.67	126.67
208 Pb # 3	-0.01453	-0.01453	ug/l	33.66	1800.00		906.70	723.36	1097.16
232 Th # 3	0.06308	0.06308	ug/l	0.53	#VALUE!		2850.37	2903.70	2873.70
238 U # 3	-3.81E-005	-3.81E-005	ug/l	422.27	#VALUE!		26.67	23.33	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444926.09	1.09	442436.88	100.6	60 - 125		439310.88	447836.91	447630.50
45 Sc # 1	457628.81	0.08	456299.72	100.3	60 - 125		458039.72	457574.22	457272.47
45 Sc # 3	766139.56	1.19	765061.25	100.1	60 - 125		756416.94	774446.88	767554.94
74 Ge # 1	155830.11	0.25	153441.28	101.6	60 - 125		155395.23	155954.55	156140.55
74 Ge # 2	44950.81	1.97	47804.94	94.0	60 - 125		45087.78	44006.31	45758.35
74 Ge # 3	225866.97	1.37	224564.78	100.6	60 - 125		222507.50	226495.88	228597.58
89 Y # 3	1320791.90	0.86	1302847.50	101.4	60 - 125		1311493.80	1333525.40	1317356.50
115 In # 3	1377030.10	0.75	1366177.60	100.8	60 - 125		1368760.30	1373640.90	1388689.10
159 Tb # 3	2012572.60	0.78	2052817.90	98.0	60 - 125		1999553.80	2008218.50	2029945.40
209 Bi # 3	1372838.30	0.73	1405468.50	97.7	60 - 125		1361270.40	1379268.00	1377976.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\042SMPL.D\042SMPL.D#
 Date Acquired: Aug 24 2014 03:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-344685_2-a
 Misc Info: 3010 1/5
 Vial Number: 4408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	11.05	11.05	ug/l	1.00	100.00		21201.87	21298.53	21288.63
11 B # 3	46.52	46.52	ug/l	1.24	1800.00		72731.85	72842.40	72762.58
23 Na # 1	1159	1159	ug/l	0.36	81000.00		4213418.00	4215352.00	4226350.00
24 Mg # 1	1178	1178	ug/l	0.21	81000.00		2945801.80	2934253.50	2933563.30
27 Al # 1	1152	1152	ug/l	0.20	81000.00		3427651.30	3400742.80	3406585.50
39 K # 2	1123	1123	ug/l	0.24	81000.00		381194.59	386888.91	391590.41
40 Ca # 1	1194	1194	ug/l	0.89	81000.00		8288347.50	8202925.50	8129893.00
47 Ti # 3	21.49	21.49	ug/l	1.76	1620.00		24226.17	24616.59	25203.97
51 V # 2	22.44	22.44	ug/l	0.37	1800.00		57546.73	58533.06	58936.62
52 Cr # 2	22.71	22.71	ug/l	0.45	1800.00		71086.27	71186.60	72479.30
55 Mn # 3	115.8	115.8	ug/l	0.52	1800.00		2209184.80	2235264.30	2232468.50
56 Fe # 1	1187	1187	ug/l	1.04	81000.00		10577918.00	10514258.00	10745802.00
59 Co # 3	11.44	11.44	ug/l	0.47	1800.00		165157.86	167150.66	167388.98
60 Ni # 2	23.25	23.25	ug/l	0.83	1800.00		27018.63	27077.56	27198.89
63 Cu # 2	22.42	22.42	ug/l	0.54	1800.00		71558.55	71882.09	72463.27
66 Zn # 3	21.89	21.89	ug/l	1.59	1800.00		46021.25	47621.97	47171.03
75 As # 2	22.21	22.21	ug/l	0.54	100.00		7474.20	7606.59	7625.60
78 Se # 1	22.24	22.24	ug/l	0.82	100.00		6065.02	6020.00	5990.33
88 Sr # 3	21	21	ug/l	0.63	1800.00		538867.50	535377.00	541760.44
95 Mo # 3	21.98	21.98	ug/l	1.12	1800.00		89450.98	88389.31	90257.83
107 Ag # 3	10.41	10.41	ug/l	0.66	100.00		118162.00	118819.73	117913.79
111 Cd # 3	11.07	11.07	ug/l	1.43	100.00		27008.39	27586.33	26868.11
118 Sn # 3	44.92	44.92	ug/l	0.65	1800.00		346203.03	348730.00	345734.84
121 Sb # 3	11.01	11.01	ug/l	0.44	100.00		101378.95	102207.08	101657.16
137 Ba # 3	21.29	21.29	ug/l	0.79	1800.00		86345.58	86600.33	88144.62
202 Hg # 3	0.5915	0.5915	ug/l	1.57	5.00		2000.80	2075.48	2037.47
205 Tl # 3	8.677	8.677	ug/l	0.09	20.00		236179.39	237749.58	238347.91
208 Pb # 3	11.06	11.06	ug/l	0.71	1800.00		414083.75	413054.53	412971.63
232 Th # 3	11.41	11.41	ug/l	0.13	#VALUE!		460805.16	460396.50	462944.41
238 U # 3	11.15	11.15	ug/l	0.82	#VALUE!		470612.34	470818.63	466499.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444817.66	1.24	442436.88	100.5	60 - 125		438434.94	447984.69	448033.31
45 Sc # 1	462130.59	0.31	456299.72	101.3	60 - 125		463412.72	460585.03	462394.09
45 Sc # 3	776951.19	1.51	765061.25	101.6	60 - 125		778045.69	764723.19	788084.56
74 Ge # 1	155694.92	0.22	153441.28	101.5	60 - 125		155473.64	155514.45	156096.66
74 Ge # 2	44735.75	1.17	47804.94	93.6	60 - 125		44234.46	44695.65	45277.14
74 Ge # 3	224205.95	0.57	224564.78	99.8	60 - 125		223166.14	223830.02	225621.77
89 Y # 3	1320103.60	0.45	1302847.50	101.3	60 - 125		1326740.50	1315300.30	1318270.00
115 In # 3	1371049.50	0.55	1366177.60	100.4	60 - 125		1362551.90	1373822.10	1376774.60
159 Tb # 3	2019487.50	0.56	2052817.90	98.4	60 - 125		2006741.40	2023388.80	2028332.50
209 Bi # 3	1352238.10	0.33	1405468.50	96.2	60 - 125		1352315.30	1347732.30	1356666.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\043SMPL.D\043SMPL.D#
 Date Acquired: Aug 24 2014 03:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mdlv 680-344685_3-a
 Misc Info: 3010 1/5
 Vial Number: 4409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.07769	0.07769	ug/l	13.72	100.00		156.67	126.67	163.34
11 B # 3	24.77	24.77	ug/l	1.01	1800.00		39360.20	39326.82	39724.48
23 Na # 1	48.24	48.24	ug/l	0.58	81000.00		264480.84	265301.47	263442.66
24 Mg # 1	17.5	17.5	ug/l	0.75	81000.00		44060.91	43453.04	43944.06
27 Al # 1	14.39	14.39	ug/l	1.26	81000.00		43182.50	43954.26	42958.51
39 K # 2	28.76	28.76	ug/l	4.76	81000.00		21586.18	22327.04	22297.00
40 Ca # 1	70.03	70.03	ug/l	0.18	81000.00		495061.56	496791.81	495787.34
47 Ti # 3	0.6399	0.6399	ug/l	7.06	1620.00		786.71	886.71	776.71
51 V # 2	2.309	2.309	ug/l	2.04	1800.00		6057.69	6221.08	6201.08
52 Cr # 2	1.209	1.209	ug/l	1.30	1800.00		4087.15	4039.36	4128.27
55 Mn # 3	1.226	1.226	ug/l	1.84	1800.00		25060.71	24913.98	24860.50
56 Fe # 1	16.99	16.99	ug/l	0.89	81000.00		154704.58	152244.69	152688.03
59 Co # 3	0.06757	0.06757	ug/l	5.50	1800.00		1093.40	1006.72	1046.72
60 Ni # 2	1.277	1.277	ug/l	4.53	1800.00		1551.19	1536.75	1480.07
63 Cu # 2	0.6801	0.6801	ug/l	5.02	1800.00		2595.76	2620.21	2509.08
66 Zn # 3	4.718	4.718	ug/l	3.70	1800.00		10523.26	10916.83	10293.14
75 As # 2	0.647	0.647	ug/l	4.12	100.00		238.34	231.34	228.34
78 Se # 1	0.3378	0.3378	ug/l	7.84	100.00		117.00	103.33	115.67
88 Sr # 3	0.2384	0.2384	ug/l	3.18	1800.00		6211.24	6227.90	6004.56
95 Mo # 3	0.662	0.662	ug/l	2.12	1800.00		2660.28	2780.29	2843.65
107 Ag # 3	0.1324	0.1324	ug/l	4.65	100.00		1656.80	1570.12	1580.11
111 Cd # 3	0.08179	0.08179	ug/l	8.14	100.00		209.42	186.06	216.05
118 Sn # 3	1.336	1.336	ug/l	1.80	1800.00		10883.72	10750.25	10893.71
121 Sb # 3	0.3568	0.3568	ug/l	5.53	100.00		3253.73	3107.03	3490.47
137 Ba # 3	0.3624	0.3624	ug/l	6.00	1800.00		1480.11	1410.10	1596.80
202 Hg # 3	0.1461	0.1461	ug/l	3.14	5.00		609.68	596.01	587.68
205 Tl # 3	0.1726	0.1726	ug/l	6.67	20.00		5181.00	4937.59	4604.15
208 Pb # 3	0.118	0.118	ug/l	8.80	1800.00		6003.97	5417.20	6074.01
232 Th # 3	0.1436	0.1436	ug/l	4.80	#VALUE!		6371.51	6051.38	5914.65
238 U # 3	0.0004136	0.0004136	ug/l	107.59	#VALUE!		36.67	70.00	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	439967.38	0.75	442436.88	99.4	60 - 125		436574.00	443173.44	440154.69
45 Sc # 1	452645.88	0.02	456299.72	99.2	60 - 125		452582.78	452612.31	452742.59
45 Sc # 3	750192.19	1.94	765061.25	98.1	60 - 125		734544.88	763393.88	752637.88
74 Ge # 1	155226.09	0.37	153441.28	101.2	60 - 125		155580.41	154556.53	155541.31
74 Ge # 2	44394.59	1.99	47804.94	92.9	60 - 125		43899.36	43868.02	45416.39
74 Ge # 3	223438.69	1.31	224564.78	99.5	60 - 125		220287.63	223967.70	226060.80
89 Y # 3	1293415.60	1.09	1302847.50	99.3	60 - 125		1285623.50	1284866.90	1309756.50
115 In # 3	1348512.00	1.36	1366177.60	98.7	60 - 125		1328126.00	1353757.40	1363652.80
159 Tb # 3	2014703.30	0.70	2052817.90	98.1	60 - 125		1998923.80	2025767.00	2019418.90
209 Bi # 3	1358554.90	0.90	1405468.50	96.7	60 - 125		1345713.00	1369953.00	1359998.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\044_CCV.D\044_CCV.D#
 Date Acquired: Aug 24 2014 03:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.02 ug/l	0.95	50.00	89.5 - 110		93277.16	93177.15	92966.13
11 B	100.3 ug/l	0.71	100.00	89.5 - 110		146927.45	149091.98	151312.41
23 Na	5226 ug/l	0.51	5000.00	89.5 - 110		18380800.00	18430612.00	18361448.00
24 Mg	5212 ug/l	0.50	5000.00	89.5 - 110		12822741.00	12784891.00	12784509.00
27 Al	526.1 ug/l	0.68	500.00	89.5 - 110		1541758.90	1530497.40	1532147.00
39 K	4891 ug/l	0.79	5000.00	89.5 - 110		1657397.60	1669662.90	1678130.10
40 Ca	5224 ug/l	0.82	5000.00	89.5 - 110		35055648.00	35541164.00	35192516.00
47 Ti	50.57 ug/l	0.99	50.00	89.5 - 110		55994.04	57491.85	57725.98
51 V	49.82 ug/l	0.40	50.00	89.5 - 110		130856.27	130737.91	132761.39
52 Cr	49.9 ug/l	0.63	50.00	89.5 - 110		158618.20	159351.98	160778.50
55 Mn	508.6 ug/l	0.28	500.00	89.5 - 110		9755115.00	9786273.00	9941435.00
56 Fe	5295 ug/l	0.73	5000.00	89.5 - 110		46870156.00	46320260.00	46650908.00
59 Co	49.74 ug/l	0.25	50.00	89.5 - 110		723330.50	727550.00	732450.50
60 Ni	50.7 ug/l	0.75	50.00	89.5 - 110		59941.92	60072.30	60141.36
63 Cu	49.59 ug/l	0.60	50.00	89.5 - 110		160605.86	161182.84	162299.38
66 Zn	49.9 ug/l	0.53	50.00	89.5 - 110		106473.60	106523.77	107227.92
75 As	49.94 ug/l	0.91	50.00	89.5 - 110		17118.67	17170.39	17565.09
78 Se	51.77 ug/l	0.61	50.00	89.5 - 110		14025.40	14010.72	13941.01
88 Sr	49.64 ug/l	0.57	50.00	89.5 - 110		1249281.80	1263737.90	1256547.80
95 Mo	50.02 ug/l	0.61	50.00	89.5 - 110		198922.39	202064.55	203104.63
107 Ag	48.68 ug/l	0.25	50.00	89.5 - 110		543013.81	547460.63	552486.44
111 Cd	50.2 ug/l	0.56	50.00	89.5 - 110		121620.20	122260.96	122166.26
118 Sn	50.45 ug/l	0.57	50.00	89.5 - 110		382970.81	387665.91	387267.19
121 Sb	49.78 ug/l	0.23	50.00	89.5 - 110		452318.44	456056.13	459365.25
137 Ba	49.39 ug/l	0.83	50.00	89.5 - 110		197118.61	201067.50	201915.31
202 Hg	2.525 ug/l	1.41	2.50	89.5 - 110		8285.50	8291.17	8317.84
205 Tl	9.906 ug/l	1.04	10.00	89.5 - 110		269029.53	271420.66	274102.72
208 Pb	49.62 ug/l	1.42	50.00	89.5 - 110		1847963.80	1847559.10	1861759.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	430448.50	0.78	442436.88	97.3	60 - 125		426889.56	430880.34	433575.56
45 Sc	455083.34	0.37	456299.72	99.7	60 - 125		453795.75	454460.34	456994.00
45 Sc	765482.88	0.66	765061.25	100.1	60 - 125		759725.94	767659.75	769063.00
74 Ge	155602.70	0.63	153441.28	101.4	60 - 125		156661.45	154735.44	155411.22
74 Ge	45493.87	0.78	47804.94	95.2	60 - 125		45496.41	45136.69	45848.50
74 Ge	225445.17	0.88	224564.78	100.4	60 - 125		223596.66	225207.39	227531.50
89 Y	1302762.00	0.91	1302847.50	100.0	60 - 125		1289121.80	1308054.30	1311110.00
115 In	1358602.10	0.69	1366177.60	99.4	60 - 125		1350984.00	1355799.80	1369022.50
159 Tb	2023371.30	1.46	2052817.90	98.6	60 - 125		1990233.50	2046896.30	2032983.80
209 Bi	1355309.50	0.97	1405468.50	96.4	60 - 125		1343536.60	1352942.60	1369449.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\045_CCB.D\045_CCB.D#
 Date Acquired: Aug 24 2014 03:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002967	0.002967	ug/l	158.04	#VALUE!		0.00	16.67	3.33
11 B # 3	2.271	2.271	ug/l	4.59	#VALUE!		5807.67	5584.26	5764.32
23 Na # 1	-2.618	-2.618	ug/l	245.30	#VALUE!		83567.21	83567.63	81893.50
24 Mg # 1	0.1441	0.1441	ug/l	83.48	#VALUE!		1513.43	1336.76	1320.09
27 Al # 1	-0.04933	-0.04933	ug/l	197.97	#VALUE!		1566.78	1363.42	1446.76
39 K # 2	-2.131	-2.131	ug/l	17.48	#VALUE!		12007.51	12000.75	12280.95
40 Ca # 1	0.2173	0.2173	ug/l	409.34	#VALUE!		27607.39	25481.01	26001.73
47 Ti # 3	-0.03184	-0.03184	ug/l	219.38	#VALUE!		20.00	40.00	163.41
51 V # 2	0.03046	0.03046	ug/l	9.70	#VALUE!		298.89	316.67	312.23
52 Cr # 2	-0.01408	-0.01408	ug/l	3.24	#VALUE!		280.01	280.01	283.34
55 Mn # 3	0.03434	0.03434	ug/l	13.63	#VALUE!		2006.83	2210.21	2183.52
56 Fe # 1	0.5434	0.5434	ug/l	36.00	#VALUE!		9479.31	8252.10	8915.70
59 Co # 3	0.002553	0.002553	ug/l	52.14	#VALUE!		83.34	116.67	120.00
60 Ni # 2	-0.00986	-0.00986	ug/l	39.98	#VALUE!		42.22	33.33	38.89
63 Cu # 2	-0.05561	-0.05561	ug/l	5.66	#VALUE!		243.34	263.34	246.67
66 Zn # 3	-0.1164	-0.1164	ug/l	12.09	#VALUE!		406.68	360.01	410.02
75 As # 2	0.007312	0.007312	ug/l	26.93	#VALUE!		16.33	17.67	17.67
78 Se # 1	-0.009538	-0.009538	ug/l	92.15	#VALUE!		19.67	17.00	18.33
88 Sr # 3	0.004036	0.004036	ug/l	32.78	#VALUE!		240.01	300.01	243.34
95 Mo # 3	0.02961	0.02961	ug/l	15.51	#VALUE!		213.34	250.01	250.01
107 Ag # 3	0.0001734	0.0001734	ug/l	1209.30	#VALUE!		116.67	110.00	156.67
111 Cd # 3	0.005923	0.005923	ug/l	33.70	#VALUE!		19.95	16.61	26.61
118 Sn # 3	0.1079	0.1079	ug/l	12.54	#VALUE!		1440.11	1663.46	1550.11
121 Sb # 3	0.01903	0.01903	ug/l	29.40	#VALUE!		173.34	273.34	200.01
137 Ba # 3	0.004265	0.004265	ug/l	70.65	#VALUE!		53.34	70.00	46.67
202 Hg # 3	-0.001383	-0.001383	ug/l	188.58	#VALUE!		130.67	119.00	116.67
205 Tl # 3	-0.0006863	-0.0006863	ug/l	44.86	#VALUE!		170.01	186.67	186.67
208 Pb # 3	-0.01584	-0.01584	ug/l	5.07	#VALUE!		816.71	876.70	880.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	432540.38	0.77	442436.88	97.8	60 - 125		428735.81	434784.06	434101.28
45 Sc # 1	449617.47	25.69	456299.72	98.5	60 - 125		571265.06	341539.13	436048.25
45 Sc # 3	737197.56	1.73	765061.25	96.4	60 - 125		726407.13	733908.13	751277.38
74 Ge # 1	156785.16	20.05	153441.28	102.2	60 - 125		189274.19	126504.52	154576.73
74 Ge # 2	45237.73	0.57	47804.94	94.6	60 - 125		44948.52	45327.23	45437.45
74 Ge # 3	223143.22	1.04	224564.78	99.4	60 - 125		220467.59	224242.97	224719.14
89 Y # 3	1297929.40	1.12	1302847.50	99.6	60 - 125		1282594.90	1299726.60	1311466.50
115 In # 3	1360600.90	1.42	1366177.60	99.6	60 - 125		1341480.90	1360244.40	1380077.80
159 Tb # 3	2007486.60	0.73	2052817.90	97.8	60 - 125		1990908.30	2018953.80	2012598.10
209 Bi # 3	1365511.80	0.40	1405468.50	97.2	60 - 125		1359631.40	1366310.30	1370593.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\046SMPL.D\046SMPL.D#
 Date Acquired: Aug 24 2014 03:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104275-f-10-c
 Misc Info: 3050 1/5
 Vial Number: 2101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babb2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.089	2.089	ug/l	1.67	100.00		3930.50	3817.15	3980.51
11 B # 3	7.268	7.268	ug/l	1.57	1800.00		13131.44	12967.92	13084.71
23 Na # 1	142.4	142.4	ug/l	1.54	81000.00		695282.31	685531.00	689397.00
24 Mg # 1	5485	5485	ug/l	0.32	81000.00		15552408.00	15623523.00	15640843.00
27 Al # 1	23400	23400	ug/l	0.18	81000.00		78519488.00	79067024.00	79433832.00
39 K # 2	2486	2486	ug/l	1.48	81000.00		827968.81	829673.69	860388.63
40 Ca # 1	6516	6516	ug/l	0.96	81000.00		51040880.00	50575304.00	51239328.00
47 Ti # 3	109.1	109.1	ug/l	0.10	1620.00		138526.64	145489.64	146074.73
51 V # 2	47.16	47.16	ug/l	0.48	1800.00		121041.21	122006.27	123643.87
52 Cr # 2	35.67	35.67	ug/l	0.65	1800.00		110948.80	111634.88	113791.22
55 Mn # 3	1741	1741	ug/l	1.38	1800.00		32777992.00	33751396.00	34571520.00
56 Fe # 1	49180	49180	ug/l	0.82	81000.00		502822820.00	500070110.00	502300350.00
59 Co # 3	25.66	25.66	ug/l	0.52	1800.00		369017.06	377909.88	381388.91
60 Ni # 2	48.56	48.56	ug/l	0.15	1800.00		56264.81	56180.12	57033.84
63 Cu # 2	33.91	33.91	ug/l	0.32	1800.00		107897.29	108471.78	109126.52
66 Zn # 3	129.6	129.6	ug/l	0.62	1800.00		271493.81	276254.66	281916.84
75 As # 2	14.05	14.05	ug/l	0.69	100.00		4731.29	4777.97	4854.65
78 Se # 1	0.8723	0.8723	ug/l	5.87	100.00		238.67	258.34	266.00
88 Sr # 3	23.73	23.73	ug/l	0.71	1800.00		962461.94	977060.00	989875.81
95 Mo # 3	1.871	1.871	ug/l	0.74	1800.00		7541.80	7541.81	7745.20
107 Ag # 3	0.06605	0.06605	ug/l	6.17	100.00		850.05	820.05	923.38
111 Cd # 3	0.3029	0.3029	ug/l	6.07	100.00		688.38	745.05	785.00
118 Sn # 3	2.998	2.998	ug/l	2.15	1800.00		22995.82	23873.71	23643.25
121 Sb # 3	0.2346	0.2346	ug/l	7.98	100.00		2000.18	2166.86	2370.23
137 Ba # 3	260.5	260.5	ug/l	1.02	1800.00		1034485.40	1049605.60	1065553.60
202 Hg # 3	0.02955	0.02955	ug/l	13.55	5.00		215.34	223.34	246.68
205 Tl # 3	0.3171	0.3171	ug/l	0.79	20.00		8929.43	9056.13	9282.99
208 Pb # 3	25.75	25.75	ug/l	0.93	1800.00		977797.38	985934.44	988636.00
232 Th # 3	8.738	8.738	ug/l	0.23	#VALUE!		344113.56	346968.34	348505.41
238 U # 3	1.811	1.811	ug/l	1.14	#VALUE!		73878.34	75669.63	74776.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	432411.16	1.18	442436.88	97.7	60 - 125		428785.19	430193.44	438254.84
45 Sc # 1	527334.44	0.62	456299.72	115.6	60 - 125		523580.19	528836.50	529586.63
45 Sc # 3	892424.88	2.88	765061.25	116.6	60 - 125		862784.94	906201.88	908287.88
74 Ge # 1	154295.31	0.21	153441.28	100.6	60 - 125		154084.56	154136.14	154665.23
74 Ge # 2	44683.05	0.71	47804.94	93.5	60 - 125		44491.84	44508.55	45048.74
74 Ge # 3	225803.91	1.28	224564.78	100.6	60 - 125		222845.20	225922.19	228644.34
89 Y # 3	2117150.50	1.72	1302847.50	162.5	60 - 125	IS 1	2075259.50	2135347.80	2140843.80
115 In # 3	1352060.60	0.86	1366177.60	99.0	60 - 125		1348046.10	1343026.60	1365109.00
159 Tb # 3	2069534.80	1.31	2052817.90	100.8	60 - 125		2050927.90	2057126.00	2100550.30
209 Bi # 3	1325813.80	0.75	1405468.50	94.3	60 - 125		1316685.30	1324341.00	1336415.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\047SMPL.D\047SMPL.D#
 Date Acquired: Aug 24 2014 03:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104275-a-12-b
 Misc Info: 3050 1/5
 Vial Number: 2102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.921	1.921	ug/l	2.30	100.00		3006.98	3053.65	3123.67
11 B # 3	4.835	4.835	ug/l	5.19	1800.00		7855.11	8462.04	7925.13
23 Na # 1	101.3	101.3	ug/l	1.48	81000.00		536159.19	542697.63	528554.38
24 Mg # 1	5547	5547	ug/l	0.34	81000.00		16187556.00	16141536.00	16153416.00
27 Al # 1	21660	21660	ug/l	0.10	81000.00		75167632.00	74981096.00	74576624.00
39 K # 2	2183	2183	ug/l	0.29	81000.00		695747.50	687907.19	683932.00
40 Ca # 1	3449	3449	ug/l	0.75	81000.00		27533832.00	27679462.00	27704326.00
47 Ti # 3	130.5	130.5	ug/l	3.87	1620.00		149643.13	140820.28	143385.92
51 V # 2	47.98	47.98	ug/l	0.18	1800.00		117567.08	116025.48	114552.13
52 Cr # 2	35.97	35.97	ug/l	0.55	1800.00		107394.04	105296.70	103905.71
55 Mn # 3	2181	2181	ug/l	1.60	1800.00	Fail	35390080.00	35172688.00	35858652.00
56 Fe # 1	53170	53170	ug/l	0.26	81000.00		556868930.00	557057920.00	552521470.00
59 Co # 3	33.07	33.07	ug/l	1.05	1800.00		409197.09	406089.56	406795.25
60 Ni # 2	50.52	50.52	ug/l	1.53	1800.00		56236.97	54966.57	53354.15
63 Cu # 2	35.97	35.97	ug/l	0.48	1800.00		109228.79	107014.30	105928.37
66 Zn # 3	134.6	134.6	ug/l	0.16	1800.00		240741.48	243168.59	240778.61
75 As # 2	19.95	19.95	ug/l	0.48	100.00		6374.46	6354.45	6281.09
78 Se # 1	0.5859	0.5859	ug/l	2.47	100.00		183.00	177.33	176.00
88 Sr # 3	20.62	20.62	ug/l	0.83	1800.00		705505.81	711662.56	712852.88
95 Mo # 3	2.332	2.332	ug/l	1.28	1800.00		8308.82	8382.19	8522.28
107 Ag # 3	0.07102	0.07102	ug/l	3.85	100.00		836.71	786.71	830.04
111 Cd # 3	0.3586	0.3586	ug/l	7.83	100.00		834.89	781.53	714.83
118 Sn # 3	3.026	3.026	ug/l	0.65	1800.00		20946.53	21216.80	21103.33
121 Sb # 3	0.3041	0.3041	ug/l	3.02	100.00		2426.92	2496.91	2576.94
137 Ba # 3	291.4	291.4	ug/l	0.94	1800.00		1037768.60	1038638.50	1055553.60
202 Hg # 3	0.03228	0.03228	ug/l	22.03	5.00		240.01	197.67	214.67
205 Tl # 3	0.3469	0.3469	ug/l	3.09	20.00		9346.39	9029.51	8899.44
208 Pb # 3	29.2	29.2	ug/l	0.34	1800.00		1022301.00	1015232.70	1029111.60
232 Th # 3	13.27	13.27	ug/l	1.03	#VALUE!		497602.91	497879.69	503030.78
238 U # 3	2.11	2.11	ug/l	1.30	#VALUE!		82609.32	82829.73	82717.39

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	368312.38	0.43	442436.88	83.2	60 - 125		368989.84	369455.34	366491.97
45 Sc # 1	540054.44	0.43	456299.72	118.4	60 - 125		542429.31	539965.44	537768.56
45 Sc # 3	752677.94	0.75	765061.25	98.4	60 - 125		746197.00	755568.81	756268.13
74 Ge # 1	155237.08	0.10	153441.28	101.2	60 - 125		155054.84	155352.84	155303.55
74 Ge # 2	41698.63	1.12	47804.94	87.2	60 - 125		42178.54	41672.00	41245.34
74 Ge # 3	189814.55	0.74	224564.78	84.5	60 - 125		188958.48	191428.23	189056.97
89 Y # 3	1772000.80	0.40	1302847.50	136.0	60 - 125	IS I	1777169.10	1763988.90	1774843.90
115 In # 3	1202109.30	0.03	1366177.60	88.0	60 - 125		1201780.40	1202099.00	1202448.40
159 Tb # 3	1896025.10	0.66	2052817.90	92.4	60 - 125		1889087.00	1888628.80	1910359.50
209 Bi # 3	1259070.50	1.17	1405468.50	89.6	60 - 125		1267295.00	1242054.40	1267862.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\048SMPL.D\048SMPL.D#
 Date Acquired: Aug 24 2014 03:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104275-f-13-c
 Misc Info: 3050 1/5
 Vial Number: 2103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.833	1.833	ug/l	3.34	100.00		2770.28	2976.97	2866.95
11 B #3	6.385	6.385	ug/l	5.27	1800.00		9445.82	10310.06	9792.69
23 Na #1	175.2	175.2	ug/l	1.97	81000.00		707838.25	715246.88	696275.81
24 Mg #1	5807	5807	ug/l	0.38	81000.00		14210796.00	14119006.00	14216610.00
27 Al #1	21380	21380	ug/l	0.32	81000.00		61609000.00	61959320.00	62368684.00
39 K #2	2274	2274	ug/l	0.65	81000.00		638900.75	651556.44	664857.00
40 Ca #1	8316	8316	ug/l	0.22	81000.00		55791932.00	55738060.00	55928412.00
47 Ti #3	140.5	140.5	ug/l	4.55	1620.00		160418.16	152477.31	153451.72
51 V #2	47.36	47.36	ug/l	0.31	1800.00		102923.26	103857.38	105468.30
52 Cr #2	37.61	37.61	ug/l	0.72	1800.00		99578.03	99688.27	101363.10
55 Mn #3	1713	1713	ug/l	1.30	1800.00		27257630.00	27959022.00	28000586.00
56 Fe #1	49570	49570	ug/l	0.18	81000.00		433019550.00	434044190.00	435345790.00
59 Co #3	21.15	21.15	ug/l	0.84	1800.00		257011.11	260386.25	260822.89
60 Ni #2	48.06	48.06	ug/l	0.55	1800.00		46861.28	47633.13	47728.95
63 Cu #2	35.31	35.31	ug/l	0.85	1800.00		95360.41	95489.95	96499.61
66 Zn #3	127.1	127.1	ug/l	0.66	1800.00		224106.88	226604.94	230373.44
75 As #2	15.28	15.28	ug/l	0.69	100.00		4363.53	4381.20	4489.89
78 Se #1	0.9504	0.9504	ug/l	3.74	100.00		225.67	240.34	238.67
88 Sr #3	26.81	26.81	ug/l	1.30	1800.00		1022760.80	1046007.10	1063987.80
95 Mo #3	1.959	1.959	ug/l	1.64	1800.00		7084.95	7024.92	7098.29
107 Ag #3	0.06365	0.06365	ug/l	8.54	100.00		716.71	803.38	710.03
111 Cd #3	1.462	1.462	ug/l	2.23	100.00		3045.45	3225.51	3168.81
118 Sn #3	2.914	2.914	ug/l	1.15	1800.00		20152.06	20389.12	20375.76
121 Sb #3	0.2837	0.2837	ug/l	2.35	100.00		2233.56	2366.90	2396.91
137 Ba #3	229.7	229.7	ug/l	0.73	1800.00		811479.69	825738.31	828188.94
202 Hg #3	0.02822	0.02822	ug/l	24.67	5.00		228.01	195.00	196.67
205 Tl #3	0.3138	0.3138	ug/l	4.77	20.00		7758.83	8495.87	8672.66
208 Pb #3	28.1	28.1	ug/l	1.11	1800.00		989114.38	989040.50	995278.63
232 Th #3	12.6	12.6	ug/l	0.15	#VALUE!		465873.00	465701.13	473143.53
238 U #3	1.952	1.952	ug/l	0.58	#VALUE!		74812.48	75131.49	76735.36

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	362025.91	1.74	442436.88	81.8	60 - 125		356080.13	361392.53	368605.00
45 Sc #1	452707.59	0.38	456299.72	99.2	60 - 125		451655.75	451763.03	454703.94
45 Sc #3	751668.06	2.35	765061.25	98.2	60 - 125		738380.31	744859.88	771764.06
74 Ge #1	131689.66	0.20	153441.28	85.8	60 - 125		131701.97	131426.73	131940.27
74 Ge #2	37886.27	1.36	47804.94	79.3	60 - 125		37353.72	37923.72	38381.37
74 Ge #3	188942.97	0.97	224564.78	84.1	60 - 125		187934.30	187844.61	191049.98
89 Y #3	2004542.00	1.33	1302847.50	153.9	60 - 125	IS I	1992002.90	1986564.50	2035058.50
115 In #3	1200597.80	1.61	1366177.60	87.9	60 - 125		1181382.80	1200364.90	1220045.60
159 Tb #3	1910667.00	1.23	2052817.90	93.1	60 - 125		1883596.60	1924374.50	1924030.10
209 Bi #3	1242588.90	0.79	1405468.50	88.4	60 - 125		1236095.30	1237862.50	1253809.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\049SMPL.D\049SMPL.D#
 Date Acquired: Aug 24 2014 04:03 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104275-f-14-c
 Misc Info: 3050 1/5
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.677	1.677	ug/l	6.68	100.00		2336.87	2713.59	2540.23
11 B #3	4.396	4.396	ug/l	1.59	1800.00		7104.79	7064.80	7208.19
23 Na #1	146.4	146.4	ug/l	1.39	81000.00		578067.75	571241.38	578956.06
24 Mg #1	5457	5457	ug/l	1.05	81000.00		12709955.00	12587541.00	12695261.00
27 Al #1	19330	19330	ug/l	0.42	81000.00		52844084.00	53676704.00	53182524.00
39 K #2	1895	1895	ug/l	0.78	81000.00		520887.91	523909.88	533618.56
40 Ca #1	3655	3655	ug/l	0.31	81000.00		23209690.00	23336176.00	23423860.00
47 Ti #3	127.9	127.9	ug/l	1.09	1620.00		130405.44	130437.78	135042.33
51 V #2	42.49	42.49	ug/l	1.01	1800.00		89718.37	89565.27	91233.45
52 Cr #2	34.89	34.89	ug/l	0.56	1800.00		89172.81	89828.21	90365.06
55 Mn #3	2156	2156	ug/l	0.46	1800.00	Fail	32998542.00	33749988.00	34024672.00
56 Fe #1	51440	51440	ug/l	0.80	81000.00		427855710.00	430469630.00	425622240.00
59 Co #3	34.52	34.52	ug/l	0.38	1800.00		401302.16	407965.03	412618.41
60 Ni #2	45.08	45.08	ug/l	0.95	1800.00		42821.55	43003.03	42968.45
63 Cu #2	32.44	32.44	ug/l	1.32	1800.00		85136.85	84846.53	84957.97
66 Zn #3	127.4	127.4	ug/l	0.28	1800.00		216260.02	219290.52	221519.69
75 As #2	15.58	15.58	ug/l	1.21	100.00		4345.53	4336.86	4346.19
78 Se #1	0.5696	0.5696	ug/l	3.87	100.00		141.67	139.33	150.67
88 Sr #3	20.47	20.47	ug/l	0.46	1800.00		636185.88	648622.31	647455.31
95 Mo #3	1.916	1.916	ug/l	1.76	1800.00		6471.35	6664.76	6824.81
107 Ag #3	0.04649	0.04649	ug/l	9.82	100.00		576.70	500.02	576.70
111 Cd #3	0.2484	0.2484	ug/l	8.39	100.00		561.93	505.22	488.52
118 Sn #3	2.74	2.74	ug/l	2.35	1800.00		18136.52	18820.60	18240.04
121 Sb #3	0.2774	0.2774	ug/l	2.21	100.00		2146.86	2163.53	2273.54
137 Ba #3	233.5	233.5	ug/l	0.51	1800.00		798311.13	805263.56	807731.94
202 Hg #3	0.02509	0.02509	ug/l	16.81	5.00		189.67	178.67	205.01
205 Tl #3	0.2985	0.2985	ug/l	2.27	20.00		7798.84	7575.32	7625.40
208 Pb #3	27.52	27.52	ug/l	0.71	1800.00		939475.31	942859.56	940834.38
232 Th #3	12.04	12.04	ug/l	0.30	#VALUE!		438732.81	439709.69	440914.06
238 U #3	1.396	1.396	ug/l	1.20	#VALUE!		52156.08	53202.92	53955.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	348582.91	1.47	442436.88	78.8	60 - 125		343191.94	349168.31	353388.53
45 Sc #1	430140.72	0.63	456299.72	94.3	60 - 125		427030.06	431872.97	431519.13
45 Sc #3	700873.50	1.17	765061.25	91.6	60 - 125		693011.69	700279.69	709329.25
74 Ge #1	128059.45	0.79	153441.28	83.5	60 - 125		128004.96	127081.90	129091.47
74 Ge #2	36581.78	1.16	47804.94	76.5	60 - 125		36101.19	36748.04	36896.11
74 Ge #3	181790.48	1.14	224564.78	81.0	60 - 125		179454.31	182551.00	183366.11
89 Y #3	1618968.30	1.52	1302847.50	124.3	60 - 125		1590905.60	1636567.10	1629431.90
115 In #3	1154819.60	0.98	1366177.60	84.5	60 - 125		1144997.00	1152277.30	1167185.00
159 Tb #3	1851852.50	0.78	2052817.90	90.2	60 - 125		1836700.80	1853362.60	1865494.10
209 Bi #3	1221458.60	0.52	1405468.50	86.9	60 - 125		1214337.00	1223541.10	1226497.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\050SMPL.D\050SMPL.D#
 Date Acquired: Aug 24 2014 04:10 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104275-f-15-c
 Misc Info: 3050 1/5
 Vial Number: 2105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.185	2.185	ug/l	2.20	100.00		3287.03	3290.36	3227.02
11 B # 3	4.778	4.778	ug/l	3.97	1800.00		7471.60	7331.58	7745.04
23 Na # 1	181.2	181.2	ug/l	0.60	81000.00		697332.63	702122.00	697249.19
24 Mg # 1	6171	6171	ug/l	1.04	81000.00		14371896.00	14621130.00	14458620.00
27 Al # 1	21710	21710	ug/l	0.75	81000.00		60189684.00	60883380.00	60348132.00
39 K # 2	2267	2267	ug/l	1.12	81000.00		618842.50	623561.06	637797.56
40 Ca # 1	3199	3199	ug/l	0.43	81000.00		20820358.00	20605384.00	20528732.00
47 Ti # 3	142.8	142.8	ug/l	1.04	1620.00		146619.30	151413.17	154571.30
51 V # 2	49.24	49.24	ug/l	0.94	1800.00		102957.76	104286.14	105860.71
52 Cr # 2	40.37	40.37	ug/l	0.90	1800.00		102288.90	103903.27	105024.08
55 Mn # 3	384.9	384.9	ug/l	0.43	1800.00		5907275.00	6101470.00	6089545.50
56 Fe # 1	38250	38250	ug/l	0.21	81000.00		322728100.00	322513600.00	320375740.00
59 Co # 3	31.76	31.76	ug/l	0.92	1800.00		373393.59	376695.19	380678.69
60 Ni # 2	58.35	58.35	ug/l	0.11	1800.00		55317.63	55358.80	55830.24
63 Cu # 2	40.71	40.71	ug/l	0.14	1800.00		106000.88	106199.95	107192.28
66 Zn # 3	148.1	148.1	ug/l	1.02	1800.00		252901.56	255480.02	259391.80
75 As # 2	6.99	6.99	ug/l	2.46	100.00		1953.44	1900.10	2007.78
78 Se # 1	0.7154	0.7154	ug/l	2.68	100.00		176.33	171.00	178.67
88 Sr # 3	17.55	17.55	ug/l	1.15	1800.00		589145.38	595880.88	605557.00
95 Mo # 3	1.664	1.664	ug/l	2.48	1800.00		5791.08	5907.82	5611.06
107 Ag # 3	0.1076	0.1076	ug/l	2.07	100.00		1136.74	1116.75	1140.07
111 Cd # 3	0.1926	0.1926	ug/l	2.87	100.00		392.08	398.72	415.45
118 Sn # 3	14.08	14.08	ug/l	0.43	1800.00		90445.13	92462.52	92110.69
121 Sb # 3	0.3051	0.3051	ug/l	3.30	100.00		2410.24	2480.24	2313.56
137 Ba # 3	185.5	185.5	ug/l	0.75	1800.00		634360.44	636498.44	638110.50
202 Hg # 3	0.03489	0.03489	ug/l	31.30	5.00		181.00	240.34	239.01
205 Tl # 3	0.4411	0.4411	ug/l	1.74	20.00		11177.58	11030.84	11491.14
208 Pb # 3	31.95	31.95	ug/l	0.63	1800.00		1088351.10	1085426.80	1100472.50
232 Th # 3	15.79	15.79	ug/l	0.44	#VALUE!		580242.75	579209.56	582417.56
238 U # 3	2.168	2.168	ug/l	1.12	#VALUE!		83071.90	83564.13	82502.76

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	345713.97	1.49	442436.88	78.1	60 - 125		339757.75	348930.72	348453.50
45 Sc # 1	435049.31	0.31	456299.72	95.3	60 - 125		436467.41	434922.88	433757.75
45 Sc # 3	717339.06	1.70	765061.25	93.8	60 - 125		703599.13	721598.50	726819.44
74 Ge # 1	127405.41	0.29	153441.28	83.0	60 - 125		127004.61	127745.57	127466.05
74 Ge # 2	36542.82	0.47	47804.94	76.4	60 - 125		36400.66	36494.20	36733.59
74 Ge # 3	182865.38	1.40	224564.78	81.4	60 - 125		179936.02	184689.63	183970.47
89 Y # 3	1749871.00	2.06	1302847.50	134.3	60 - 125	IS I	1733823.10	1724557.00	1791232.90
115 In # 3	1150778.40	0.89	1366177.60	84.2	60 - 125		1140203.40	1160722.60	1151409.40
159 Tb # 3	1850319.40	0.87	2052817.90	90.1	60 - 125		1833501.40	1851845.40	1865611.60
209 Bi # 3	1229750.60	0.55	1405468.50	87.5	60 - 125		1234772.00	1222018.90	1232461.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\051SMPL.D\051SMPL.D#
 Date Acquired: Aug 24 2014 04:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104341-b-1-c
 Misc Info: 3050 1/5
 Vial Number: 2106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00155	0.00155	ug/l	1.25	100.00		3.33	3.33	3.33
11 B # 3	11.15	11.15	ug/l	1.23	1800.00		15599.87	15856.75	15699.96
23 Na # 1	7.888	7.888	ug/l	5.01	81000.00		101475.77	101582.77	102611.56
24 Mg # 1	7.258	7.258	ug/l	0.45	81000.00		15509.90	15443.27	15469.90
27 Al # 1	10.41	10.41	ug/l	1.87	81000.00		26328.62	25660.93	26525.67
39 K # 2	5.874	5.874	ug/l	20.38	81000.00		12234.22	11720.55	12147.49
40 Ca # 1	12.91	12.91	ug/l	0.90	81000.00		93024.61	92002.94	92994.26
47 Ti # 3	0.5229	0.5229	ug/l	15.80	1620.00		500.02	523.36	656.70
51 V # 2	0.1855	0.1855	ug/l	7.41	1800.00		572.24	610.02	563.35
52 Cr # 2	0.1026	0.1026	ug/l	13.17	1800.00		525.57	492.23	573.35
55 Mn # 3	0.6085	0.6085	ug/l	0.62	1800.00		10733.37	10876.77	11086.92
56 Fe # 1	54.19	54.19	ug/l	0.59	81000.00		395045.81	391811.13	394824.19
59 Co # 3	0.006091	0.006091	ug/l	40.70	1800.00		146.67	96.67	150.01
60 Ni # 2	0.2158	0.2158	ug/l	9.11	1800.00		234.45	267.78	238.89
63 Cu # 2	0.1519	0.1519	ug/l	7.97	1800.00		760.02	710.02	777.80
66 Zn # 3	0.854	0.854	ug/l	3.11	1800.00		1980.16	2076.84	2013.50
75 As # 2	0.1204	0.1204	ug/l	7.65	100.00		44.33	43.33	49.33
78 Se # 1	-0.01244	-0.01244	ug/l	79.05	100.00		12.33	16.00	16.33
88 Sr # 3	0.0643	0.0643	ug/l	3.32	1800.00		1476.77	1563.44	1546.78
95 Mo # 3	0.01442	0.01442	ug/l	18.61	1800.00		163.34	153.34	146.67
107 Ag # 3	-0.001582	-0.001582	ug/l	45.57	100.00		90.00	90.00	103.34
111 Cd # 3	0.002484	0.002484	ug/l	131.68	100.00		16.63	3.30	13.30
118 Sn # 3	2.032	2.032	ug/l	1.42	1800.00		13972.66	14453.03	14316.24
121 Sb # 3	0.008958	0.008958	ug/l	19.52	100.00		103.34	123.34	96.67
137 Ba # 3	0.1104	0.1104	ug/l	10.75	1800.00		380.02	430.02	470.02
202 Hg # 3	-0.02599	-0.02599	ug/l	2.54	5.00		40.00	39.67	37.33
205 Tl # 3	-0.003373	-0.003373	ug/l	14.40	20.00		83.34	106.67	103.34
208 Pb # 3	0.01472	0.01472	ug/l	24.13	1800.00		1666.76	1916.78	1813.44
232 Th # 3	0.06998	0.06998	ug/l	6.92	#VALUE!		3017.05	3040.40	2780.34
238 U # 3	0.00299	0.00299	ug/l	3.60	#VALUE!		140.00	150.01	153.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	362081.69	0.91	442436.88	81.8	60 - 125		359149.63	361448.13	365647.34
45 Sc # 1	372235.53	0.58	456299.72	81.6	60 - 125		374696.78	371412.63	370597.19
45 Sc # 3	610424.25	1.96	765061.25	79.8	60 - 125		597948.63	611451.81	621872.38
74 Ge # 1	130703.08	0.08	153441.28	85.2	60 - 125		130806.58	130691.75	130610.91
74 Ge # 2	36812.29	1.56	47804.94	77.0	60 - 125		36319.51	36674.56	37442.79
74 Ge # 3	185458.22	1.10	224564.78	82.6	60 - 125		183422.63	185458.98	187493.06
89 Y # 3	1114514.80	1.11	1302847.50	85.5	60 - 125		1109306.40	1105559.50	1128678.40
115 In # 3	1191355.90	0.70	1366177.60	87.2	60 - 125		1183046.30	1191357.50	1199664.00
159 Tb # 3	1815431.30	1.24	2052817.90	88.4	60 - 125		1795853.30	1810363.30	1840077.00
209 Bi # 3	1281093.60	1.83	1405468.50	91.2	60 - 125		1255714.00	1285461.90	1302105.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\052_QCS.D\052_QCS.D#
 Date Acquired: Aug 24 2014 04:25 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.09 ug/l	12.91	0.10 69.5 - 130	
11 B	20.81 ug/l	1.90	20.00 69.5 - 130	
23 Na	51.41 ug/l	0.65	50.00 69.5 - 130	
24 Mg	59.14 ug/l	0.80	50.00 69.5 - 130	
27 Al	13.08 ug/l	0.76	10.00 69.5 - 130	Fail
39 K	46.76 ug/l	1.50	50.00 69.5 - 130	
40 Ca	58.22 ug/l	1.47	50.00 69.5 - 130	
47 Ti	1.07 ug/l	6.02	1.00 69.5 - 130	
51 V	0.99 ug/l	3.99	1.00 69.5 - 130	
52 Cr	0.99 ug/l	2.62	1.00 69.5 - 130	
55 Mn	1.20 ug/l	3.06	1.00 69.5 - 130	
56 Fe	26.92 ug/l	0.79	20.00 69.5 - 130	Fail
59 Co	0.11 ug/l	6.67	0.10 69.5 - 130	
60 Ni	1.05 ug/l	0.74	1.00 69.5 - 130	
63 Cu	0.96 ug/l	0.95	1.00 69.5 - 130	
66 Zn	4.06 ug/l	1.57	4.00 69.5 - 130	
75 As	0.53 ug/l	8.52	0.50 69.5 - 130	
78 Se	0.46 ug/l	7.36	0.50 69.5 - 130	
88 Sr	0.21 ug/l	1.33	0.20 69.5 - 130	
95 Mo	0.94 ug/l	4.35	1.00 69.5 - 130	
107 Ag	0.20 ug/l	3.55	0.20 69.5 - 130	
111 Cd	0.11 ug/l	9.73	0.10 69.5 - 130	
118 Sn	1.11 ug/l	2.47	1.00 69.5 - 130	
121 Sb	1.01 ug/l	2.36	1.00 69.5 - 130	
137 Ba	1.04 ug/l	3.86	1.00 69.5 - 130	
202 Hg	0.14 ug/l	2.75	0.16 69.5 - 130	
205 Tl	0.20 ug/l	3.89	0.20 69.5 - 130	
208 Pb	0.30 ug/l	1.94	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	360849.09	0.78	442436.88	81.6	60 - 125	
45 Sc	367824.69	0.22	456299.72	80.6	60 - 125	
45 Sc	611030.19	1.83	765061.25	79.9	60 - 125	
74 Ge	129398.42	0.57	153441.28	84.3	60 - 125	
74 Ge	37009.68	0.68	47804.94	77.4	60 - 125	
74 Ge	187056.27	1.65	224564.78	83.3	60 - 125	
89 Y	1114549.50	0.84	1302847.50	85.5	60 - 125	
115 In	1197789.00	1.08	1366177.60	87.7	60 - 125	
159 Tb	1817449.40	0.91	2052817.90	88.5	60 - 125	
209 Bi	1266929.10	1.18	1405468.50	90.1	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\053_CCV.D\053_CCV.D#
 Date Acquired: Aug 24 2014 04:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.71 ug/l	1.79	50.00	89.5 - 110		78614.16	79899.22	79142.41
11 B	99.02 ug/l	0.89	100.00	89.5 - 110		124693.20	126194.65	127217.78
23 Na	5200 ug/l	1.04	5000.00	89.5 - 110		15365928.00	15254946.00	15258146.00
24 Mg	5174 ug/l	0.41	5000.00	89.5 - 110		10578645.00	10671060.00	10602063.00
27 Al	527.7 ug/l	1.11	500.00	89.5 - 110		1285159.60	1300644.60	1274169.10
39 K	4734 ug/l	0.83	5000.00	89.5 - 110		1340488.80	1384592.00	1402065.10
40 Ca	5198 ug/l	0.98	5000.00	89.5 - 110		29431272.00	29367520.00	29169440.00
47 Ti	50.96 ug/l	1.10	50.00	89.5 - 110		47513.96	49278.57	49866.63
51 V	47.92 ug/l	0.31	50.00	89.5 - 110		106170.95	107668.41	109198.40
52 Cr	48.42 ug/l	0.74	50.00	89.5 - 110		130401.25	131201.39	133988.83
55 Mn	501.6 ug/l	0.29	500.00	89.5 - 110		8353640.50	8546810.00	8738545.00
56 Fe	5390 ug/l	0.52	5000.00	89.5 - 110		39361568.00	39626172.00	40000208.00
59 Co	48.85 ug/l	0.80	50.00	89.5 - 110		619112.63	631203.13	640302.00
60 Ni	49.72 ug/l	0.48	50.00	89.5 - 110		49600.54	50168.75	50664.48
63 Cu	48.69 ug/l	0.47	50.00	89.5 - 110		133302.97	135425.08	135984.38
66 Zn	49.35 ug/l	1.29	50.00	89.5 - 110		89983.54	94126.65	95209.09
75 As	49.71 ug/l	0.63	50.00	89.5 - 110		14351.62	14658.88	14950.11
78 Se	51.8 ug/l	0.28	50.00	89.5 - 110		12063.00	12114.70	12099.69
88 Sr	49.47 ug/l	0.54	50.00	89.5 - 110		1109470.60	1114669.80	1142024.60
95 Mo	49.17 ug/l	0.85	50.00	89.5 - 110		176933.75	180482.39	182209.91
107 Ag	48.07 ug/l	0.73	50.00	89.5 - 110		485875.81	493079.06	495534.72
111 Cd	50.28 ug/l	1.30	50.00	89.5 - 110		109230.77	110927.20	113007.08
118 Sn	50.45 ug/l	1.29	50.00	89.5 - 110		347803.34	349589.56	354877.44
121 Sb	49.99 ug/l	1.44	50.00	89.5 - 110		412803.53	413895.50	421298.88
137 Ba	49.8 ug/l	1.55	50.00	89.5 - 110		181902.67	182145.27	185834.61
202 Hg	2.535 ug/l	1.16	2.50	89.5 - 110		7734.56	7785.59	7822.60
205 Tl	9.926 ug/l	1.58	10.00	89.5 - 110		253944.84	253130.08	255089.73
208 Pb	50.43 ug/l	1.03	50.00	89.5 - 110		1743274.80	1764731.60	1766493.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	368448.78	1.72	442436.88	83.3	60 - 125		363460.81	366305.31	375580.25
45 Sc	380359.41	0.62	456299.72	83.4	60 - 125		377650.81	381892.88	381534.50
45 Sc	650601.19	1.48	765061.25	85.0	60 - 125		639500.88	655711.94	656590.75
74 Ge	134404.25	0.34	153441.28	87.6	60 - 125		133999.52	134320.84	134892.41
74 Ge	38739.56	1.49	47804.94	81.0	60 - 125		38105.29	38873.48	39239.93
74 Ge	198804.89	2.41	224564.78	88.5	60 - 125		194337.28	198218.13	203859.27
89 Y	1167227.40	1.25	1302847.50	89.6	60 - 125		1153174.00	1166266.50	1182241.50
115 In	1234663.40	1.42	1366177.60	90.4	60 - 125		1215187.80	1249059.60	1239742.40
159 Tb	1889593.80	1.70	2052817.90	92.0	60 - 125		1855001.00	1895116.00	1918664.40
209 Bi	1275162.60	0.93	1405468.50	90.7	60 - 125		1261554.00	1283190.30	1280743.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\054_CCB.D\054_CCB.D#
 Date Acquired: Aug 24 2014 04:40 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001457	0.001457	ug/l	241.94	#VALUE!		0.00	10.00	0.00
11 B #3	1.888	1.888	ug/l	8.10	#VALUE!		4353.93	4734.03	4560.65
23 Na #1	-5.286	-5.286	ug/l	2.57	#VALUE!		68950.09	68465.22	68588.84
24 Mg #1	0.3662	0.3662	ug/l	32.28	#VALUE!		1993.49	1763.47	1493.43
27 Al #1	0.4063	0.4063	ug/l	22.30	#VALUE!		2563.57	2670.27	2253.52
39 K #2	-4.083	-4.083	ug/l	21.22	#VALUE!		10126.35	10456.54	10019.58
40 Ca #1	0.1414	0.1414	ug/l	57.60	#VALUE!		24376.22	23374.92	23621.88
47 Ti #3	-0.06978	-0.06978	ug/l	20.55	#VALUE!		13.33	40.00	33.33
51 V #2	0.01405	0.01405	ug/l	62.95	#VALUE!		254.45	215.56	242.23
52 Cr #2	-0.01646	-0.01646	ug/l	62.94	#VALUE!		211.11	271.12	250.00
55 Mn #3	0.03322	0.03322	ug/l	14.51	#VALUE!		1800.14	1903.49	2023.49
56 Fe #1	1.26	1.26	ug/l	12.38	#VALUE!		14606.13	13962.35	12364.50
59 Co #3	0.001548	0.001548	ug/l	106.85	#VALUE!		70.00	70.00	110.00
60 Ni #2	-0.01051	-0.01051	ug/l	12.60	#VALUE!		34.44	33.33	32.22
63 Cu #2	-0.06447	-0.06447	ug/l	12.49	#VALUE!		173.34	221.11	201.11
66 Zn #3	-0.02642	-0.02642	ug/l	262.64	#VALUE!		620.03	570.03	383.35
75 As #2	0.006867	0.006867	ug/l	36.71	#VALUE!		14.33	16.00	15.33
78 Se #1	-0.0268	-0.0268	ug/l	16.60	#VALUE!		13.00	11.33	13.33
88 Sr #3	0.002659	0.002659	ug/l	20.74	#VALUE!		193.34	206.67	223.34
95 Mo #3	0.03808	0.03808	ug/l	19.90	#VALUE!		220.01	276.68	266.68
107 Ag #3	-0.003251	-0.003251	ug/l	15.16	#VALUE!		76.67	86.67	86.67
111 Cd #3	0.004077	0.004077	ug/l	73.80	#VALUE!		9.95	13.27	23.28
118 Sn #3	0.1009	0.1009	ug/l	12.12	#VALUE!		1413.44	1480.11	1310.10
121 Sb #3	0.01936	0.01936	ug/l	2.89	#VALUE!		206.67	206.67	200.01
137 Ba #3	0.004351	0.004351	ug/l	75.27	#VALUE!		66.67	43.33	50.00
202 Hg #3	0.001953	0.001953	ug/l	63.80	#VALUE!		128.34	121.00	128.67
205 Tl #3	-0.004199	-0.004199	ug/l	12.11	#VALUE!		90.00	86.67	66.67
208 Pb #3	-0.01802	-0.01802	ug/l	6.40	#VALUE!		690.03	743.36	776.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	381706.47	1.40	442436.88	86.3	60 - 125		378576.25	378667.53	387875.63
45 Sc #1	398310.41	0.66	456299.72	87.3	60 - 125		398822.25	395479.75	400629.22
45 Sc #3	655280.69	1.01	765061.25	85.7	60 - 125		650201.13	652861.44	662779.50
74 Ge #1	141048.20	0.15	153441.28	91.9	60 - 125		140893.02	141285.86	140965.73
74 Ge #2	40343.03	0.83	47804.94	84.4	60 - 125		40006.00	40343.42	40679.66
74 Ge #3	201655.34	1.56	224564.78	89.8	60 - 125		199198.73	200580.08	205187.23
89 Y #3	1190797.10	1.13	1302847.50	91.4	60 - 125		1180621.80	1185733.60	1206035.90
115 In #3	1273227.40	0.72	1366177.60	93.2	60 - 125		1262649.00	1278158.90	1278874.40
159 Tb #3	1903639.80	0.70	2052817.90	92.7	60 - 125		1898752.00	1893507.00	1918660.40
209 Bi #3	1307848.40	1.06	1405468.50	93.1	60 - 125		1295218.50	1305646.10	1322680.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\055SMPL.D\055SMPL.D#
 Date Acquired: Aug 24 2014 04:47 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345555_1-a
 Misc Info: 3050 1/5
 Vial Number: 2107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001385	0.001385	ug/l	141.08	100.00		0.00	3.33	6.67
11 B # 3	1.342	1.342	ug/l	2.46	1800.00		3870.47	3920.50	4007.18
23 Na # 1	-3.107	-3.107	ug/l	7.69	81000.00		77160.74	76056.70	77462.10
24 Mg # 1	0.8671	0.8671	ug/l	8.57	81000.00		2703.60	2956.98	2993.66
27 Al # 1	1.956	1.956	ug/l	3.99	81000.00		6407.95	6551.31	6788.05
39 K # 2	0.7609	0.7609	ug/l	100.92	81000.00		11807.28	11500.48	11637.22
40 Ca # 1	5.655	5.655	ug/l	2.94	81000.00		57026.43	56892.73	58561.14
47 Ti # 3	0.00867	0.00867	ug/l	117.19	1620.00		93.34	110.00	113.34
51 V # 2	0.1086	0.1086	ug/l	16.85	1800.00		434.45	507.79	432.23
52 Cr # 2	0.08758	0.08758	ug/l	6.74	1800.00		521.12	557.79	535.57
55 Mn # 3	0.07614	0.07614	ug/l	3.70	1800.00		2586.92	2713.62	2650.26
56 Fe # 1	2.817	2.817	ug/l	4.66	81000.00		25084.08	26419.41	27010.24
59 Co # 3	-0.000141	-0.000141	ug/l	650.99	1800.00		46.67	66.67	70.00
60 Ni # 2	0.2784	0.2784	ug/l	2.14	1800.00		340.01	331.12	337.78
63 Cu # 2	-0.03616	-0.03616	ug/l	28.32	1800.00		296.67	294.45	247.78
66 Zn # 3	0.2042	0.2042	ug/l	29.94	1800.00		920.05	1096.73	876.71
75 As # 2	0.0283	0.0283	ug/l	15.25	100.00		22.67	20.33	22.33
78 Se # 1	-0.0292	-0.0292	ug/l	25.69	100.00		14.00	11.67	10.33
88 Sr # 3	0.008105	0.008105	ug/l	9.62	1800.00		320.01	353.35	320.01
95 Mo # 3	0.006466	0.006466	ug/l	49.46	1800.00		143.34	120.01	140.00
107 Ag # 3	-0.0005567	-0.0005567	ug/l	42.23	100.00		110.00	113.34	110.00
111 Cd # 3	0.004628	0.004628	ug/l	31.91	100.00		13.30	16.64	19.97
118 Sn # 3	2.178	2.178	ug/l	0.48	1800.00		16161.27	16151.29	16224.69
121 Sb # 3	0.01561	0.01561	ug/l	58.71	100.00		150.01	256.84	106.67
137 Ba # 3	0.02091	0.02091	ug/l	16.71	1800.00		110.00	130.00	106.67
202 Hg # 3	-0.01626	-0.01626	ug/l	18.24	5.00		60.00	76.67	74.00
205 Tl # 3	-0.004403	-0.004403	ug/l	13.52	20.00		76.67	90.00	60.00
208 Pb # 3	-0.007919	-0.007919	ug/l	25.17	1800.00		1133.38	1003.38	1123.38
232 Th # 3	0.04496	0.04496	ug/l	3.55	#VALUE!		2086.87	2073.55	1970.20
238 U # 3	0.001375	0.001375	ug/l	8.65	#VALUE!		80.00	86.67	90.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
46 Li # 3	390783.84	0.78	442436.88	88.3	60 - 125		389325.69	388720.63	394305.19
45 Sc # 1	406491.00	0.18	456299.72	89.1	60 - 125		407314.19	406274.91	405883.81
45 Sc # 3	661622.94	0.88	765061.25	86.5	60 - 125		655797.94	661660.19	667410.63
74 Ge # 1	141386.89	0.28	153441.28	92.1	60 - 125		141483.06	141731.52	140946.09
74 Ge # 2	40321.48	0.83	47804.94	84.3	60 - 125		39963.63	40370.11	40630.69
74 Ge # 3	201671.84	1.12	224564.78	89.8	60 - 125		199183.08	202218.06	203614.39
89 Y # 3	1181528.60	1.36	1302847.50	90.7	60 - 125		1163132.80	1188625.50	1192827.80
115 In # 3	1266450.90	0.49	1366177.60	92.7	60 - 125		1271516.90	1259473.80	1268362.10
159 Tb # 3	1895295.40	0.32	2052817.90	92.3	60 - 125		1895005.80	1889295.60	1901584.80
209 Bi # 3	1315632.10	0.94	1405468.50	93.6	60 - 125		1306240.10	1329596.90	1311059.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\056SMPL.D\056SMPL.D#
 Date Acquired: Aug 24 2014 04:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345555_2-a
 Misc Info: 3050 1/5
 Vial Number: 2108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	10.3	10.3	ug/l	1.26	100.00		17468.16	17604.93	18035.22
11 B #3	40.61	40.61	ug/l	1.36	1800.00		55924.03	57391.41	57745.66
23 Na #1	1073	1073	ug/l	0.92	81000.00		3458910.30	3467450.50	3435280.80
24 Mg #1	1097	1097	ug/l	0.51	81000.00		2416783.80	2404461.80	2423257.50
27 Al #1	1069	1069	ug/l	0.30	81000.00		2776105.50	2801938.80	2800135.00
39 K #2	998.5	998.5	ug/l	1.22	81000.00		308793.94	306999.88	311578.84
40 Ca #1	1105	1105	ug/l	0.56	81000.00		6697033.50	6660622.00	6754908.00
47 Ti #3	20.46	20.46	ug/l	3.28	1620.00		20188.07	19660.80	21145.66
51 V #2	20.06	20.06	ug/l	0.57	1800.00		46587.75	46988.62	46719.15
52 Cr #2	20.47	20.47	ug/l	0.17	1800.00		57377.32	58201.10	57979.36
55 Mn #3	108.1	108.1	ug/l	0.70	1800.00		1863630.80	1885296.90	1890203.90
56 Fe #1	1118	1118	ug/l	0.74	81000.00		8844353.00	8755247.00	8872892.00
59 Co #3	10.48	10.48	ug/l	0.37	1800.00		136474.72	137681.16	139666.27
60 Ni #2	21.16	21.16	ug/l	0.80	1800.00		21993.11	22048.73	22283.48
63 Cu #2	20.46	20.46	ug/l	0.34	1800.00		58416.27	59034.86	59194.32
66 Zn #3	21.05	21.05	ug/l	1.79	1800.00		40354.99	41434.02	40692.27
75 As #2	20.6	20.6	ug/l	0.77	100.00		6279.09	6288.76	6302.76
78 Se #1	21.1	21.1	ug/l	0.95	100.00		5177.75	5260.10	5144.74
88 Sr #3	19.49	19.49	ug/l	0.46	1800.00		453328.75	457643.75	459279.53
95 Mo #3	19.88	19.88	ug/l	0.74	1800.00		74549.82	74934.31	75768.04
107 Ag #3	10.15	10.15	ug/l	0.51	100.00		105686.61	107346.84	108369.98
111 Cd #3	10.22	10.22	ug/l	1.00	100.00		22999.23	23683.40	23202.64
118 Sn #3	43.99	43.99	ug/l	0.97	1800.00		315210.97	315630.38	315945.97
121 Sb #3	10.29	10.29	ug/l	2.52	100.00		87768.87	86499.31	90851.24
137 Ba #3	20.16	20.16	ug/l	1.04	1800.00		75970.13	76130.50	77556.55
202 Hg #3	0.9334	0.9334	ug/l	0.95	5.00		2962.28	3023.96	2983.95
205 Tl #3	8.13	8.13	ug/l	0.38	20.00		209050.44	213449.70	212631.92
208 Pb #3	10.4	10.4	ug/l	0.67	1800.00		366595.16	368756.56	374584.88
232 Th #3	10.58	10.58	ug/l	0.41	#VALUE!		407695.09	410276.56	417955.88
238 U #3	10.36	10.36	ug/l	0.96	#VALUE!		417032.28	420267.53	421959.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	397214.66	0.43	442436.88	89.8	60 - 125		395546.00	397130.81	398967.13
45 Sc #1	407804.25	0.49	456299.72	89.4	60 - 125		405845.75	407743.53	409823.47
45 Sc #3	672076.63	1.29	765061.25	87.8	60 - 125		662608.50	673964.19	679657.13
74 Ge #1	141440.84	0.38	153441.28	92.2	60 - 125		140874.89	141953.45	141494.20
74 Ge #2	40085.38	0.89	47804.94	83.9	60 - 125		39679.63	40345.61	40230.90
74 Ge #3	202716.03	0.98	224564.78	90.3	60 - 125		201409.86	201742.81	204995.44
89 Y #3	1205797.10	0.89	1302847.50	92.6	60 - 125		1193753.50	1214515.40	1209122.80
115 In #3	1273466.50	1.07	1366177.60	93.2	60 - 125		1257801.50	1281655.30	1280942.80
159 Tb #3	1921831.00	1.12	2052817.90	93.6	60 - 125		1897311.40	1930382.00	1937800.00
209 Bi #3	1301684.00	1.30	1405468.50	92.6	60 - 125		1293071.50	1290773.60	1321206.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\057SMPL.D\057SMPL.D#
 Date Acquired: Aug 24 2014 05:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-1-b
 Misc Info: 3050 1/5
 Vial Number: 2109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.006415	0.006415	ug/l	60.08	100.00		6.67	10.00	20.00
11 B #3	1.382	1.382	ug/l	2.29	1800.00		3990.52	4110.54	4190.54
23 Na #1	0.9489	0.9489	ug/l	324.90	81000.00		88405.66	88177.86	86939.20
24 Mg #1	8.312	8.312	ug/l	11.17	81000.00		18966.68	18769.60	18786.48
27 Al #1	74.14	74.14	ug/l	11.64	81000.00		189378.41	189573.14	192777.67
39 K #2	2.946	2.946	ug/l	39.38	81000.00		12587.88	12070.86	12184.25
40 Ca #1	335.7	335.7	ug/l	11.69	81000.00		1996044.80	2018023.80	1999754.50
47 Ti #3	5.578	5.578	ug/l	6.51	1620.00		5857.18	5237.77	5574.60
51 V #2	0.3603	0.3603	ug/l	4.02	1800.00		1073.37	1016.71	1041.15
52 Cr #2	5.172	5.172	ug/l	1.52	1800.00		15033.92	14767.05	14868.23
55 Mn #3	39.64	39.64	ug/l	0.92	1800.00		689856.69	694522.94	691730.31
56 Fe #1	183.8	183.8	ug/l	12.26	81000.00		1399144.60	1422376.00	1437558.50
59 Co #3	0.04771	0.04771	ug/l	10.87	1800.00		623.36	683.36	773.37
60 Ni #2	0.3154	0.3154	ug/l	1.36	1800.00		376.67	371.12	375.56
63 Cu #2	3.92	3.92	ug/l	1.49	1800.00		11732.69	11601.51	11573.69
66 Zn #3	4.909	4.909	ug/l	1.29	1800.00		10013.00	9916.28	10046.37
75 As #2	2.234	2.234	ug/l	1.86	100.00		699.68	682.35	707.68
78 Se #1	-0.01166	-0.01166	ug/l	36.60	100.00		17.33	15.67	15.33
88 Sr #3	2.758	2.758	ug/l	1.35	1800.00		63546.27	65370.14	63924.49
95 Mo #3	0.03686	0.03686	ug/l	22.10	1800.00		280.01	246.68	223.34
107 Ag #3	0.042	0.042	ug/l	8.78	100.00		590.03	566.69	526.69
111 Cd #3	0.07764	0.07764	ug/l	8.02	100.00		189.95	189.95	169.96
118 Sn #3	2.584	2.584	ug/l	0.35	1800.00		19134.38	18890.78	19614.93
121 Sb #3	0.03274	0.03274	ug/l	11.50	100.00		353.35	286.68	320.01
137 Ba #3	1.701	1.701	ug/l	0.88	1800.00		6454.76	6481.47	6578.14
202 Hg #3	-0.01029	-0.01029	ug/l	21.82	5.00		84.33	84.33	97.00
205 Tl #3	0.003625	0.003625	ug/l	22.48	20.00		303.35	280.01	263.34
208 Pb #3	2.237	2.237	ug/l	0.40	1800.00		80005.09	79186.21	79975.02
232 Th #3	0.1849	0.1849	ug/l	2.81	#VALUE!		7715.51	7668.82	7402.00
238 U #3	0.1332	0.1332	ug/l	3.49	#VALUE!		5684.55	5454.50	5417.78

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	401638.47	1.64	442436.88	90.8	60 - 125		396006.03	400043.63	408865.78
45 Sc #1	402015.84	11.85	456299.72	88.1	60 - 125		456658.66	369339.09	380049.78
45 Sc #3	665420.31	1.52	765061.25	87.0	60 - 125		655671.19	664701.88	675887.88
74 Ge #1	140254.23	10.45	153441.28	91.4	60 - 125		155683.92	126535.39	138543.38
74 Ge #2	40247.25	0.72	47804.94	84.2	60 - 125		39945.87	40272.08	40523.82
74 Ge #3	203313.48	1.06	224564.78	90.5	60 - 125		200991.02	203707.67	205241.77
89 Y #3	1196854.00	1.36	1302847.50	91.9	60 - 125		1178281.50	1203914.10	1208366.40
115 In #3	1275893.80	1.58	1366177.60	93.4	60 - 125		1271017.80	1258608.80	1298054.60
159 Tb #3	1900099.40	0.58	2052817.90	92.6	60 - 125		1898388.90	1890068.90	1911840.00
209 Bi #3	1324103.00	0.88	1405468.50	94.2	60 - 125		1311055.50	1333634.40	1327619.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\058SMPL.D\058SMPL.D#
 Date Acquired: Aug 24 2014 05:09 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-1-bSD
 Misc Info: 3050 1/25
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.026215	0.005243	ug/l	97.22	100.00		6.67	3.33	20.00
11 B #3	4.008	0.8016	ug/l	11.43	1800.00		3313.70	3323.72	3147.01
23 Na #1	-22.01	-4.402	ug/l	3.17	81000.00		73302.77	73235.99	73085.21
24 Mg #1	8.485	1.697	ug/l	1.23	81000.00		4654.03	4747.42	4784.06
27 Al #1	67.45	13.49	ug/l	4.79	81000.00		36293.22	38710.43	35343.69
39 K #2	-19.735	-3.947	ug/l	12.53	81000.00		10353.15	10236.40	10473.20
40 Ca #1	298.5	59.7	ug/l	0.38	81000.00		384441.31	385110.19	385465.66
47 Ti #3	7.13	1.426	ug/l	28.77	1620.00		1683.64	1033.40	1762.48
51 V #2	0.396	0.0792	ug/l	21.94	1800.00		370.01	437.79	373.34
52 Cr #2	4.508	0.9016	ug/l	2.68	1800.00		2829.13	2783.57	3010.27
55 Mn #3	36.15	7.23	ug/l	0.98	1800.00		127780.39	127326.14	129608.60
56 Fe #1	159.9	31.98	ug/l	0.82	81000.00		257718.30	256082.20	256498.09
59 Co #3	0.03323	0.006646	ug/l	14.06	1800.00		136.67	160.00	160.01
60 Ni #2	0.4671	0.09342	ug/l	8.39	1800.00		142.22	134.45	155.56
63 Cu #2	3.2665	0.6533	ug/l	6.20	1800.00		2324.61	2334.61	2203.49
66 Zn #3	4.0405	0.8081	ug/l	3.28	1800.00		2126.85	2103.52	2206.87
75 As #2	1.9735	0.3947	ug/l	2.54	100.00		130.00	135.67	141.33
78 Se #1	-0.183	-0.0366	ug/l	21.73	100.00		9.33	9.00	12.67
88 Sr #3	2.53	0.506	ug/l	4.37	1800.00		12111.08	11407.27	12197.78
95 Mo #3	-0.02174	-0.004348	ug/l	16.08	1800.00		96.67	93.34	93.34
107 Ag #3	0.01631	0.003262	ug/l	86.30	100.00		120.00	156.67	180.01
111 Cd #3	0.06195	0.01239	ug/l	48.18	100.00		46.65	36.65	19.98
118 Sn #3	2.633	0.5266	ug/l	3.37	1800.00		4334.00	4640.76	4387.35
121 Sb #3	0.03591	0.007182	ug/l	29.71	100.00		120.00	93.34	86.67
137 Ba #3	1.6055	0.3211	ug/l	6.37	1800.00		1240.08	1193.41	1336.76
202 Hg #3	-0.07795	-0.01559	ug/l	25.70	5.00		85.00	63.00	69.00
205 Tl #3	-0.014025	-0.002805	ug/l	41.43	20.00		133.34	83.34	133.34
208 Pb #3	1.9475	0.3895	ug/l	1.67	1800.00		15089.94	15153.30	14786.48
232 Th #3	0.21925	0.04385	ug/l	2.27	#VALUE!		1973.52	1950.19	2060.22
238 U #3	0.1289	0.02578	ug/l	5.43	#VALUE!		1110.08	1013.40	1123.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	396548.31	1.48	442436.88	89.6	60 - 125		389849.09	400823.47	398972.28
45 Sc #1	408529.66	0.48	456299.72	89.5	60 - 125		406273.66	409720.34	409594.97
45 Sc #3	665309.50	1.73	765061.25	87.0	60 - 125		652912.69	667388.44	675627.38
74 Ge #1	143392.28	0.51	153441.28	93.5	60 - 125		143463.75	142625.39	144087.67
74 Ge #2	40790.33	2.07	47804.94	85.3	60 - 125		40128.50	40501.50	41741.00
74 Ge #3	204785.98	0.73	224564.78	91.2	60 - 125		203065.31	205615.50	205677.13
89 Y #3	1196328.60	0.83	1302847.50	91.8	60 - 125		1186246.40	1206199.80	1196539.80
115 In #3	1274654.30	0.86	1366177.60	93.3	60 - 125		1264268.50	1286072.40	1273621.90
159 Tb #3	1900129.80	1.12	2052817.90	92.6	60 - 125		1879759.10	1922300.00	1898330.40
209 Bi #3	1312098.50	1.15	1405468.50	93.4	60 - 125		1299490.00	1308028.10	1328777.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\059SMPL.D\059SMPL.D#
 Date Acquired: Aug 24 2014 05:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-1-bPDS
 Misc Info: 3050 1/5
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	22.85	22.85	ug/l	1.92	100.00		38407.94	40425.57	39126.24
11 B # 3	46.66	46.66	ug/l	2.03	1800.00		63292.94	65777.75	66818.10
23 Na # 1	2424	2424	ug/l	0.95	81000.00		7903608.00	7841593.00	7859851.50
24 Mg # 1	2450	2450	ug/l	1.18	81000.00		5558413.50	5491652.50	5498493.50
27 Al # 1	319.2	319.2	ug/l	1.12	81000.00		854969.13	847881.94	860179.13
39 K # 2	2233	2233	ug/l	1.35	81000.00		685065.81	697305.00	708830.63
40 Ca # 1	2774	2774	ug/l	0.68	81000.00		17210794.00	17236794.00	17079374.00
47 Ti # 3	30.87	30.87	ug/l	6.78	1620.00		30002.81	29628.34	33679.29
51 V # 2	23.05	23.05	ug/l	0.55	1800.00		55147.38	55083.77	55544.00
52 Cr # 2	28.27	28.27	ug/l	1.27	1800.00		81095.91	81661.07	83482.53
55 Mn # 3	272.3	272.3	ug/l	0.81	1800.00		4772537.50	4889881.00	4848489.50
56 Fe # 1	2698	2698	ug/l	1.03	81000.00		21848974.00	21967874.00	21536564.00
59 Co # 3	22.72	22.72	ug/l	1.82	1800.00		306320.47	303139.59	307167.97
60 Ni # 2	24.11	24.11	ug/l	0.56	1800.00		25832.47	25833.61	26085.05
63 Cu # 2	26.92	26.92	ug/l	1.00	1800.00		79603.32	78912.61	80229.25
66 Zn # 3	27.95	27.95	ug/l	0.90	1800.00		54701.84	55036.13	55852.18
75 As # 2	25.15	25.15	ug/l	1.38	100.00		7794.34	7856.37	8043.11
78 Se # 1	24.36	24.36	ug/l	2.28	100.00		6268.09	6118.37	6071.36
88 Sr # 3	24.86	24.86	ug/l	0.59	1800.00		583793.88	588709.63	592398.13
95 Mo # 3	22.59	22.59	ug/l	0.50	1800.00		84724.51	85782.95	86251.99
107 Ag # 3	22.47	22.47	ug/l	0.81	100.00		236988.45	237710.63	238801.19
111 Cd # 3	23.34	23.34	ug/l	1.87	100.00		53771.65	52804.98	53513.61
118 Sn # 3	25.7	25.7	ug/l	0.52	1800.00		184288.83	186005.38	185622.42
121 Sb # 3	22.95	22.95	ug/l	0.71	100.00		194157.00	199260.23	199849.70
137 Ba # 3	24.62	24.62	ug/l	0.32	1800.00		93054.54	94505.39	93838.98
202 Hg # 3	1.134	1.134	ug/l	1.33	5.00		3632.76	3647.09	3610.42
205 Tl # 3	4.596	4.596	ug/l	1.40	20.00		120524.66	119796.31	121371.22
208 Pb # 3	25.56	25.56	ug/l	1.03	1800.00		911040.81	912710.19	915757.50
232 Th # 3	23.96	23.96	ug/l	0.55	#VALUE!		940434.75	944996.00	941573.63
238 U # 3	23.07	23.07	ug/l	0.46	#VALUE!		939266.63	949358.44	946439.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	397845.97	0.91	442436.88	89.9	60 - 125		393686.34	400208.22	399643.31
45 Sc # 1	417247.28	0.54	456299.72	91.4	60 - 125		414996.50	419477.25	417268.06
45 Sc # 3	682380.25	1.41	765061.25	89.2	60 - 125		671287.81	688506.31	687346.63
74 Ge # 1	145177.73	0.64	153441.28	94.6	60 - 125		144319.63	145056.13	146157.42
74 Ge # 2	41243.91	0.48	47804.94	86.3	60 - 125		41014.90	41372.37	41344.45
74 Ge # 3	207202.13	1.57	224564.78	92.3	60 - 125		203509.09	208448.75	209648.48
89 Y # 3	1217487.10	0.68	1302847.50	93.4	60 - 125		1214876.50	1210788.50	1226796.50
115 In # 3	1277837.40	1.00	1366177.60	93.5	60 - 125		1263390.40	1287881.10	1282240.50
159 Tb # 3	1934727.60	1.18	2052817.90	94.2	60 - 125		1908706.30	1950946.90	1944529.50
209 Bi # 3	1315567.30	0.54	1405468.50	93.6	60 - 125		1308677.80	1315103.90	1322920.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\060SMPL.D\060SMPL.D#
 Date Acquired: Aug 24 2014 05:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-1-c ms
 Misc Info: 3050 1/5
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	11.27	11.27	ug/l	0.78	100.00		20007.29	19953.89	20057.25
11 B # 3	44.07	44.07	ug/l	1.90	1800.00		62132.41	64078.57	65035.36
23 Na # 1	1202	1202	ug/l	0.72	81000.00		4021656.50	3982229.50	3985665.30
24 Mg # 1	1232	1232	ug/l	0.43	81000.00		2806842.00	2832277.30	2792845.50
27 Al # 1	1294	1294	ug/l	0.27	81000.00		3509903.30	3506236.50	3497473.30
39 K # 2	1088	1088	ug/l	0.54	81000.00		349316.50	351552.06	359281.72
40 Ca # 1	1562	1562	ug/l	0.12	81000.00		9802337.00	9852527.00	9775162.00
47 Ti # 3	26.56	26.56	ug/l	3.18	1620.00		26532.56	28440.21	27347.18
51 V # 2	22.02	22.02	ug/l	0.47	1800.00		53305.52	53890.41	54736.27
52 Cr # 2	27.88	27.88	ug/l	0.42	1800.00		82266.04	82782.70	83321.66
55 Mn # 3	158.3	158.3	ug/l	0.42	1800.00		2860138.30	2860703.80	2870986.00
56 Fe # 1	1610	1610	ug/l	0.56	81000.00		13219010.00	13224019.00	13056451.00
59 Co # 3	11.3	11.3	ug/l	0.24	1800.00		154337.56	154928.80	155060.06
60 Ni # 2	23.6	23.6	ug/l	1.13	1800.00		26086.16	25720.11	26008.29
63 Cu # 2	27.29	27.29	ug/l	0.30	1800.00		82083.08	82295.29	83123.09
66 Zn # 3	27.31	27.31	ug/l	0.67	1800.00		55016.17	54765.41	55029.63
75 As # 2	24.64	24.64	ug/l	0.32	100.00		7831.35	7907.05	8001.42
78 Se # 1	23.07	23.07	ug/l	1.53	100.00		5958.98	5992.33	5829.61
88 Sr # 3	24.13	24.13	ug/l	1.00	1800.00		586000.19	586810.19	589481.13
95 Mo # 3	21.62	21.62	ug/l	1.62	1800.00		83612.89	84389.84	82983.34
107 Ag # 3	11.23	11.23	ug/l	0.54	100.00		121239.49	121259.13	121853.85
111 Cd # 3	11.21	11.21	ug/l	0.56	100.00		25944.86	26014.76	26585.91
118 Sn # 3	48.81	48.81	ug/l	0.33	1800.00		358805.13	355828.84	361888.44
121 Sb # 3	10.67	10.67	ug/l	0.31	100.00		93870.46	93110.08	94735.47
137 Ba # 3	23.71	23.71	ug/l	0.82	1800.00		92195.88	92333.56	92303.16
202 Hg # 3	1.028	1.028	ug/l	0.07	5.00		3341.03	3339.36	3333.70
205 Tl # 3	8.812	8.812	ug/l	0.11	20.00		233692.86	233411.77	233194.27
208 Pb # 3	13.79	13.79	ug/l	0.41	1800.00		498756.50	501041.66	495697.38
232 Th # 3	11.55	11.55	ug/l	0.13	#VALUE!		456035.81	457220.72	458111.66
238 U # 3	11.46	11.46	ug/l	0.74	#VALUE!		474041.19	469562.69	472811.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	410494.84	1.01	442436.88	92.8	60 - 125		408719.16	407513.28	415252.06
45 Sc # 1	422639.13	0.29	456299.72	92.6	60 - 125		422215.81	424017.69	421683.88
45 Sc # 3	699605.31	1.52	765061.25	91.4	60 - 125		688972.63	699543.44	710299.88
74 Ge # 1	147634.56	0.39	153441.28	96.2	60 - 125		148240.16	147111.02	147552.50
74 Ge # 2	42174.86	0.96	47804.94	88.2	60 - 125		41874.51	42013.78	42636.30
74 Ge # 3	210938.14	0.47	224564.78	93.9	60 - 125		209812.61	211617.83	211383.98
89 Y # 3	1252828.40	1.31	1302847.50	96.2	60 - 125		1243703.80	1243011.90	1271769.60
115 In # 3	1305236.60	0.83	1366177.60	95.5	60 - 125		1300362.60	1297707.60	1317639.80
159 Tb # 3	1955338.10	0.13	2052817.90	95.3	60 - 125		1955990.10	1957500.40	1952523.30
209 Bi # 3	1323035.90	0.33	1405468.50	94.1	60 - 125		1318002.80	1324913.90	1326190.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\061SMPL.D\061SMPL.D#
 Date Acquired: Aug 24 2014 05:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-1-d msd
 Misc Info: 3050 1/5
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	11.19	11.19	ug/l	2.83	100.00		20260.79	19776.98	19723.59
11 B # 3	44.09	44.09	ug/l	0.43	1800.00		63253.07	64209.05	64316.37
23 Na # 1	1208	1208	ug/l	0.16	81000.00		4046972.80	4044832.00	4029712.80
24 Mg # 1	1219	1219	ug/l	0.21	81000.00		2805624.80	2787080.00	2792550.00
27 Al # 1	1273	1273	ug/l	0.43	81000.00		3463664.00	3481073.30	3453352.30
39 K # 2	1085	1085	ug/l	0.50	81000.00		347299.28	354670.81	358600.09
40 Ca # 1	1562	1562	ug/l	1.06	81000.00		9855506.00	9969986.00	9759454.00
47 Ti # 3	27.33	27.33	ug/l	0.87	1620.00		27888.33	28607.02	28291.79
51 V # 2	22.08	22.08	ug/l	0.94	1800.00		53865.99	54274.92	54701.56
52 Cr # 2	27.84	27.84	ug/l	1.04	1800.00		82237.03	82693.24	83841.78
55 Mn # 3	153.4	153.4	ug/l	0.23	1800.00		2762431.30	2795767.50	2822729.80
56 Fe # 1	1412	1412	ug/l	0.58	81000.00		11672421.00	11648681.00	11522007.00
59 Co # 3	11.26	11.26	ug/l	1.35	1800.00		155284.45	155220.86	155161.34
60 Ni # 2	23.44	23.44	ug/l	1.93	1800.00		25898.17	25999.36	25617.78
63 Cu # 2	26.33	26.33	ug/l	1.36	1800.00		79597.87	79547.60	80412.36
66 Zn # 3	26.9	26.9	ug/l	1.03	1800.00		54377.47	54267.25	54815.57
75 As # 2	24.8	24.8	ug/l	0.60	100.00		7872.37	7997.76	8093.13
78 Se # 1	23.06	23.06	ug/l	1.32	100.00		6098.03	5922.64	5933.64
88 Sr # 3	23.83	23.83	ug/l	1.39	1800.00		576680.38	580503.38	580582.94
95 Mo # 3	21.53	21.53	ug/l	0.58	1800.00		83368.52	83753.46	83794.02
107 Ag # 3	11.13	11.13	ug/l	0.29	100.00		120470.96	120521.82	121547.58
111 Cd # 3	11.35	11.35	ug/l	0.63	100.00		26565.83	26605.88	26639.12
118 Sn # 3	47.18	47.18	ug/l	0.36	1800.00		347457.69	346342.56	350703.69
121 Sb # 3	10.75	10.75	ug/l	1.01	100.00		95244.99	93685.94	95961.98
137 Ba # 3	23.59	23.59	ug/l	1.08	1800.00		92729.46	91385.51	92310.14
202 Hg # 3	1.009	1.009	ug/l	1.71	5.00		3333.02	3280.01	3281.68
205 Tl # 3	8.738	8.738	ug/l	0.51	20.00		230521.73	234437.98	233798.56
208 Pb # 3	13.55	13.55	ug/l	0.85	1800.00		493133.47	492573.44	492495.41
232 Th # 3	11.64	11.64	ug/l	1.15	#VALUE!		463373.06	458363.38	463131.28
238 U # 3	11.38	11.38	ug/l	1.04	#VALUE!		470291.97	468625.03	470828.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	411426.19	1.33	442436.88	93.0	60 - 125		405141.66	414226.19	414910.69
45 Sc # 1	424938.41	0.17	456299.72	93.1	60 - 125		425736.66	424689.13	424389.50
45 Sc # 3	700326.19	1.26	765061.25	91.5	60 - 125		690464.88	703050.69	707462.88
74 Ge # 1	149106.92	0.34	153441.28	97.2	60 - 125		149685.09	148930.53	148705.17
74 Ge # 2	42304.50	1.54	47804.94	88.5	60 - 125		41555.00	42651.93	42706.57
74 Ge # 3	212364.13	1.31	224564.78	94.6	60 - 125		209471.38	212624.38	214996.64
89 Y # 3	1251087.60	1.24	1302847.50	96.0	60 - 125		1255527.90	1233812.40	1263922.50
115 In # 3	1310054.30	0.76	1366177.60	95.9	60 - 125		1302130.00	1306721.40	1321311.50
159 Tb # 3	1967475.40	0.78	2052817.90	95.8	60 - 125		1951529.40	1968792.60	1982104.10
209 Bi # 3	1326274.60	1.15	1405468.50	94.4	60 - 125		1314490.30	1320881.80	1343451.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\062SMPL.D\062SMPL.D#
 Date Acquired: Aug 24 2014 05:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-2-b
 Misc Info: 3050 1/5
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0006739	0.0006739	ug/l	161.00	100.00		3.33	0.00	3.33
11 B #3	1.658	1.658	ug/l	13.08	1800.00		4865.34	4457.26	4390.59
23 Na #1	-2.218	-2.218	ug/l	3.97	81000.00		82496.42	82852.03	83098.38
24 Mg #1	3.07	3.07	ug/l	6.97	81000.00		7451.64	8363.93	8247.47
27 Al #1	34.21	34.21	ug/l	3.80	81000.00		97976.61	92919.25	91392.19
39 K #2	-0.8177	-0.8177	ug/l	57.28	81000.00		11583.84	11547.39	11797.29
40 Ca #1	58.06	58.06	ug/l	0.85	81000.00		387713.75	385336.94	390717.69
47 Ti #3	6.747	6.747	ug/l	9.34	1620.00		7521.93	6602.41	6583.96
51 V #2	0.219	0.219	ug/l	9.63	1800.00		785.60	758.92	692.24
52 Cr #2	0.9318	0.9318	ug/l	4.69	1800.00		3166.99	3022.49	2953.59
55 Mn #3	6.396	6.396	ug/l	0.67	1800.00		116002.23	115788.55	116036.27
56 Fe #1	30.71	30.71	ug/l	2.06	81000.00		260837.05	253002.23	251666.11
59 Co #3	0.007083	0.007083	ug/l	30.75	1800.00		186.67	130.01	166.67
60 Ni #2	0.2041	0.2041	ug/l	3.74	1800.00		260.00	280.01	267.78
63 Cu #2	0.6461	0.6461	ug/l	6.50	1800.00		2255.71	2265.71	2486.86
66 Zn #3	0.8705	0.8705	ug/l	11.46	1800.00		2406.90	2093.51	2436.90
75 As #2	0.2843	0.2843	ug/l	2.72	100.00		101.00	105.33	107.00
78 Se #1	-0.02733	-0.02733	ug/l	9.06	100.00		13.00	12.33	13.67
88 Sr #3	0.712	0.712	ug/l	2.78	1800.00		16919.19	17422.15	16831.62
95 Mo #3	0.01762	0.01762	ug/l	51.09	1800.00		206.67	193.34	143.34
107 Ag #3	0.01327	0.01327	ug/l	23.66	100.00		273.34	290.01	226.67
111 Cd #3	0.01631	0.01631	ug/l	27.30	100.00		36.62	39.96	56.64
118 Sn #3	2.606	2.606	ug/l	2.03	1800.00		20008.81	19631.63	19685.06
121 Sb #3	0.02692	0.02692	ug/l	12.18	100.00		270.01	306.68	250.01
137 Ba #3	0.3543	0.3543	ug/l	3.05	1800.00		1416.77	1370.10	1453.44
202 Hg #3	-0.008167	-0.008167	ug/l	31.13	5.00		103.67	88.00	100.34
205 Tl #3	0.007284	0.007284	ug/l	23.64	20.00		436.69	370.02	350.02
208 Pb #3	0.312	0.312	ug/l	2.83	1800.00		12268.93	12822.49	12702.39
232 Th #3	0.2214	0.2214	ug/l	7.61	#VALUE!		9820.13	8946.17	8542.60
238 U #3	0.03277	0.03277	ug/l	2.43	#VALUE!		1383.44	1360.11	1426.79

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	410578.63	1.00	442436.88	92.8	60 - 125		406221.75	411106.72	414407.34
45 Sc #1	422525.44	0.14	456299.72	92.6	60 - 125		422052.44	423197.94	422325.88
45 Sc #3	685750.06	1.37	765061.25	89.6	60 - 125		674935.31	690569.19	691745.63
74 Ge #1	147560.34	0.31	153441.28	96.2	60 - 125		147854.06	147028.73	147798.27
74 Ge #2	42007.48	0.72	47804.94	87.9	60 - 125		41667.38	42245.44	42109.62
74 Ge #3	208992.83	0.60	224564.78	93.1	60 - 125		207537.03	209756.69	209684.78
89 Y #3	1222620.30	1.45	1302847.50	93.8	60 - 125		1208121.50	1217343.80	1242395.30
115 In #3	1302743.40	0.94	1366177.60	95.4	60 - 125		1288835.60	1307224.30	1312170.00
159 Tb #3	1946427.90	0.43	2052817.90	94.8	60 - 125		1948377.90	1937217.90	1953688.10
209 Bi #3	1333272.60	0.20	1405468.50	94.9	60 - 125		1330255.60	1334435.90	1335126.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\063SMPL.D\063SMPL.D#
 Date Acquired: Aug 24 2014 05:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-3-b
 Misc Info: 3050 1/5
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.01389	0.01389	ug/l	75.23	100.00		46.67	16.67	13.33
11 B #3	1.251	1.251	ug/l	11.57	1800.00		3970.51	3787.12	4213.89
23 Na #1	2.101	2.101	ug/l	13.83	81000.00		96550.78	97428.25	97247.41
24 Mg #1	28.58	28.58	ug/l	1.12	81000.00		66525.59	65138.04	67339.91
27 Al #1	760.1	760.1	ug/l	0.89	81000.00		2089793.80	2041577.30	2057232.50
39 K #2	12.03	12.03	ug/l	3.22	81000.00		15680.31	15877.03	15693.62
40 Ca #1	276.9	276.9	ug/l	1.24	81000.00		1781785.00	1761376.60	1744961.00
47 Ti #3	16.12	16.12	ug/l	9.55	1620.00		17867.51	16263.72	15250.97
51 V #2	0.5812	0.5812	ug/l	7.74	1800.00		1701.21	1508.96	1697.87
52 Cr #2	3.276	3.276	ug/l	0.42	1800.00		10026.10	9988.29	10026.08
55 Mn #3	12.92	12.92	ug/l	0.42	1800.00		231669.53	230322.42	232395.83
56 Fe #1	172.2	172.2	ug/l	1.05	81000.00		1435398.30	1399784.80	1408601.60
59 Co #3	0.02863	0.02863	ug/l	9.99	1800.00		443.35	413.35	496.69
60 Ni #2	0.5724	0.5724	ug/l	2.69	1800.00		692.24	662.24	672.24
63 Cu #2	5.097	5.097	ug/l	0.94	1800.00		15780.17	15854.66	15653.36
66 Zn #3	7.299	7.299	ug/l	1.52	1800.00		14889.73	15006.53	14799.67
75 As #2	1.604	1.604	ug/l	1.44	100.00		518.68	534.01	534.34
78 Se #1	-7.09E-005	-7.09E-005	ug/l	14122.00	100.00		22.00	20.67	17.00
88 Sr #3	11.84	11.84	ug/l	1.66	1800.00		285989.78	282058.91	281592.09
95 Mo #3	0.0272	0.0272	ug/l	36.23	1800.00		250.01	223.34	180.01
107 Ag #3	0.03298	0.03298	ug/l	14.29	100.00		523.36	426.69	476.69
111 Cd #3	0.1071	0.1071	ug/l	14.65	100.00		273.29	276.63	216.63
118 Sn #3	2.262	2.262	ug/l	2.90	1800.00		17215.66	17576.01	16945.34
121 Sb #3	0.01288	0.01288	ug/l	14.08	100.00		140.01	170.01	146.67
137 Ba #3	2.936	2.936	ug/l	1.36	1800.00		11304.09	11240.68	11750.57
202 Hg #3	-0.01094	-0.01094	ug/l	18.82	5.00		90.00	81.67	94.34
205 Tl #3	0.002266	0.002266	ug/l	84.29	20.00		200.01	300.02	260.01
208 Pb #3	2.647	2.647	ug/l	0.82	1800.00		97132.62	95582.25	96483.13
232 Th #3	0.3297	0.3297	ug/l	4.22	#VALUE!		13009.16	13279.86	14371.02
238 U #3	0.1425	0.1425	ug/l	2.89	#VALUE!		6171.50	5881.33	5954.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	409051.06	0.48	442436.88	92.5	60 - 125		407251.66	408751.75	411149.72
45 Sc #1	423508.94	0.61	456299.72	92.8	60 - 125		424750.81	420525.91	425250.06
45 Sc #3	690469.50	1.52	765061.25	90.3	60 - 125		680854.81	688869.38	701684.19
74 Ge #1	146885.52	0.43	153441.28	95.7	60 - 125		147577.59	146341.70	146737.23
74 Ge #2	42251.00	0.35	47804.94	88.4	60 - 125		42106.22	42244.32	42402.48
74 Ge #3	207831.34	0.79	224564.78	92.5	60 - 125		207358.17	206477.23	209658.63
89 Y #3	1230820.30	0.96	1302847.50	94.5	60 - 125		1222598.40	1225526.60	1244335.60
115 In #3	1301855.90	1.28	1366177.60	95.3	60 - 125		1287586.50	1297751.50	1320229.90
159 Tb #3	1946282.50	0.05	2052817.90	94.8	60 - 125		1945676.60	1945833.90	1947336.60
209 Bi #3	1346124.60	1.31	1405468.50	95.8	60 - 125		1340414.80	1331980.80	1365978.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\064SMPL.D\064SMPL.D#
 Date Acquired: Aug 24 2014 05:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-4-b
 Misc Info: 3050 1/5
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006338	0.006338	ug/l	111.86	100.00		6.67	3.33	26.67
11 B # 3	0.8199	0.8199	ug/l	6.51	1800.00		3413.70	3300.35	3393.73
23 Na # 1	-1.453	-1.453	ug/l	12.44	81000.00		83938.53	84928.54	83621.14
24 Mg # 1	9.132	9.132	ug/l	2.06	81000.00		21756.07	21776.21	21102.28
27 Al # 1	48.15	48.15	ug/l	9.83	81000.00		124013.58	145092.53	121116.92
39 K # 2	0.6903	0.6903	ug/l	92.67	81000.00		11890.73	12250.99	11770.65
40 Ca # 1	274.1	274.1	ug/l	1.05	81000.00		1726515.10	1708454.80	1718211.30
47 Ti # 3	7.313	7.313	ug/l	24.33	1620.00		6431.63	9428.86	6304.83
51 V # 2	0.3497	0.3497	ug/l	6.34	1800.00		998.92	1120.05	1034.48
52 Cr # 2	3.581	3.581	ug/l	0.92	1800.00		10645.35	10899.91	10633.09
55 Mn # 3	28.76	28.76	ug/l	0.53	1800.00		504914.16	507542.75	517319.78
56 Fe # 1	123.6	123.6	ug/l	0.96	81000.00		999201.00	994279.44	1009222.10
59 Co # 3	0.03692	0.03692	ug/l	12.56	1800.00		483.35	593.36	600.03
60 Ni # 2	0.3234	0.3234	ug/l	5.15	1800.00		401.12	408.90	374.45
63 Cu # 2	2.678	2.678	ug/l	2.38	1800.00		8439.76	8375.29	8152.98
66 Zn # 3	3.438	3.438	ug/l	2.58	1800.00		7411.72	7121.57	7301.67
75 As # 2	1.378	1.378	ug/l	1.46	100.00		438.34	451.34	455.67
78 Se # 1	-0.02232	-0.02232	ug/l	32.84	100.00		16.00	12.67	13.33
88 Sr # 3	2.18	2.18	ug/l	0.87	1800.00		51207.21	52888.66	52209.90
95 Mo # 3	0.01142	0.01142	ug/l	89.49	1800.00		123.34	143.34	203.34
107 Ag # 3	0.01937	0.01937	ug/l	18.14	100.00		360.02	326.68	293.34
111 Cd # 3	0.03863	0.03863	ug/l	23.22	100.00		109.98	103.31	73.29
118 Sn # 3	4.684	4.684	ug/l	2.28	1800.00		34107.58	35444.15	34732.48
121 Sb # 3	0.02551	0.02551	ug/l	33.14	100.00		230.01	343.35	210.01
137 Ba # 3	1.112	1.112	ug/l	4.40	1800.00		4454.06	4327.35	4193.99
202 Hg # 3	-0.01454	-0.01454	ug/l	6.76	5.00		77.34	74.67	80.34
205 Tl # 3	-0.002668	-0.002668	ug/l	4.51	20.00		120.00	123.34	126.67
208 Pb # 3	1.845	1.845	ug/l	0.62	1800.00		66980.48	68419.92	67438.17
232 Th # 3	0.144	0.144	ug/l	3.87	#VALUE!		6088.08	5837.93	6161.43
238 U # 3	0.09775	0.09775	ug/l	1.50	#VALUE!		3993.97	4210.73	4084.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406515.00	0.94	442436.88	91.9	60 - 125		402642.91	406630.84	410271.25
45 Sc # 1	416878.59	0.52	456299.72	91.4	60 - 125		414455.97	418687.75	417492.03
45 Sc # 3	677462.31	0.60	765061.25	88.6	60 - 125		673575.00	677150.75	681661.13
74 Ge # 1	144707.80	0.56	153441.28	94.3	60 - 125		143930.41	145547.86	144645.11
74 Ge # 2	41508.21	0.90	47804.94	86.8	60 - 125		41114.00	41857.87	41552.74
74 Ge # 3	206342.81	0.80	224564.78	91.9	60 - 125		204807.41	206133.92	208087.08
89 Y # 3	1226584.60	1.25	1302847.50	94.1	60 - 125		1209009.60	1233077.80	1237666.80
115 In # 3	1294000.00	1.43	1366177.60	94.7	60 - 125		1280229.10	1286692.10	1315078.90
159 Tb # 3	1946453.50	0.48	2052817.90	94.8	60 - 125		1938005.10	1956397.00	1944958.10
209 Bi # 3	1336155.30	1.43	1405468.50	95.1	60 - 125		1314485.00	1350414.10	1343566.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\065_CCV.D\065_CCV.D#
 Date Acquired: Aug 24 2014 06:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.88 ug/l	0.38	50.00	89.5 - 110		86553.65	85455.66	86657.48
11 B	98.18 ug/l	0.81	100.00	89.5 - 110		134731.28	134690.47	137251.20
23 Na	5164 ug/l	0.45	5000.00	89.5 - 110		17109606.00	16982312.00	16924200.00
24 Mg	5153 ug/l	0.79	5000.00	89.5 - 110		11969096.00	11810378.00	11739481.00
27 Al	523.2 ug/l	0.68	500.00	89.5 - 110		1423297.50	1429646.90	1431895.40
39 K	4713 ug/l	0.87	5000.00	89.5 - 110		1526526.30	1521759.30	1554078.00
40 Ca	5194 ug/l	0.94	5000.00	89.5 - 110		32652626.00	32984582.00	32783060.00
47 Ti	50.98 ug/l	1.26	50.00	89.5 - 110		52363.61	52122.95	54877.48
51 V	48.5 ug/l	1.28	50.00	89.5 - 110		121134.13	122516.52	122599.13
52 Cr	48.78 ug/l	0.78	50.00	89.5 - 110		147435.84	148703.66	150324.28
55 Mn	501.8 ug/l	0.28	500.00	89.5 - 110		9085807.00	9107554.00	9282655.00
56 Fe	5348 ug/l	0.63	5000.00	89.5 - 110		43934348.00	44084468.00	44167512.00
59 Co	49.33 ug/l	0.49	50.00	89.5 - 110		674830.00	677565.94	692586.25
60 Ni	49.67 ug/l	0.97	50.00	89.5 - 110		55397.84	56374.17	56611.45
63 Cu	48.66 ug/l	0.70	50.00	89.5 - 110		149166.91	151237.08	152737.77
66 Zn	49.49 ug/l	0.13	50.00	89.5 - 110		99367.23	99528.45	101113.48
75 As	49.38 ug/l	0.63	50.00	89.5 - 110		16123.43	16292.92	16496.10
78 Se	51.89 ug/l	0.50	50.00	89.5 - 110		13417.94	13403.93	13342.56
88 Sr	48.88 ug/l	0.29	50.00	89.5 - 110		1185604.60	1184336.50	1203269.80
95 Mo	49.65 ug/l	1.02	50.00	89.5 - 110		192781.45	191778.81	194948.09
107 Ag	48.32 ug/l	1.41	50.00	89.5 - 110		520566.75	521916.44	533862.13
111 Cd	49.4 ug/l	0.56	50.00	89.5 - 110		115440.22	115980.34	116798.80
118 Sn	50.17 ug/l	1.01	50.00	89.5 - 110		367816.81	369955.03	375377.44
121 Sb	49.25 ug/l	0.35	50.00	89.5 - 110		434779.41	435899.69	437200.50
137 Ba	49.36 ug/l	0.36	50.00	89.5 - 110		191942.52	194751.88	193011.77
202 Hg	2.534 ug/l	1.97	2.50	89.5 - 110		7998.02	8150.43	8016.02
205 Tl	9.943 ug/l	1.04	10.00	89.5 - 110		262955.06	263812.13	264153.81
208 Pb	50.2 ug/l	0.86	50.00	89.5 - 110		1805183.30	1812441.00	1820946.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	399567.38	0.43	442436.88	90.3	60 - 125		399918.94	397702.53	401080.63
45 Sc	425883.63	0.43	456299.72	93.3	60 - 125		427653.66	423982.72	426014.56
45 Sc	706678.69	1.72	765061.25	92.4	60 - 125		697896.00	701616.75	720523.44
74 Ge	148547.61	0.36	153441.28	96.8	60 - 125		148959.41	147945.66	148737.80
74 Ge	43403.26	1.74	47804.94	90.8	60 - 125		42762.12	43213.17	44234.50
74 Ge	212934.44	0.92	224564.78	94.8	60 - 125		211435.48	212229.91	215137.91
89 Y	1254107.40	1.16	1302847.50	96.3	60 - 125		1245258.10	1246104.80	1270959.40
115 In	1313185.90	0.38	1366177.60	96.1	60 - 125		1308154.60	1318165.90	1313237.30
159 Tb	1957415.80	1.15	2052817.90	95.4	60 - 125		1949286.60	1940046.90	1982914.10
209 Bi	1321293.60	0.92	1405468.50	94.0	60 - 125		1308110.60	1323674.10	1332096.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\066_CCB.D\066_CCB.D#
 Date Acquired: Aug 24 2014 06:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0006705	0.0006705	ug/l	161.37	#VALUE!		3.33	0.00	3.33
11 B #3	1.678	1.678	ug/l	4.22	#VALUE!		4510.63	4730.71	4597.32
23 Na #1	-5.56	-5.56	ug/l	4.35	#VALUE!		73533.63	72901.26	71950.99
24 Mg #1	-0.02542	-0.02542	ug/l	108.97	#VALUE!		1046.73	923.41	956.72
27 Al #1	-0.1179	-0.1179	ug/l	12.76	#VALUE!		1210.07	1233.41	1290.08
39 K #2	-5.674	-5.674	ug/l	7.71	#VALUE!		10513.20	10333.09	10729.99
40 Ca #1	0.104	0.104	ug/l	338.56	#VALUE!		27784.47	23485.12	24616.56
47 Ti #3	-0.07077	-0.07077	ug/l	11.67	#VALUE!		26.67	23.33	40.00
51 V #2	0.01271	0.01271	ug/l	46.30	#VALUE!		241.12	246.67	273.34
52 Cr #2	-0.0212	-0.0212	ug/l	26.86	#VALUE!		244.45	233.34	271.12
55 Mn #3	0.01942	0.01942	ug/l	29.02	#VALUE!		1650.13	1843.47	1833.48
56 Fe #1	0.434	0.434	ug/l	4.15	#VALUE!		7985.27	7708.51	7755.16
59 Co #3	0.0002235	0.0002235	ug/l	734.68	#VALUE!		56.67	96.67	56.67
60 Ni #2	-0.01719	-0.01719	ug/l	16.23	#VALUE!		27.78	25.56	32.22
63 Cu #2	-0.07062	-0.07062	ug/l	5.78	#VALUE!		197.78	205.56	183.34
66 Zn #3	-0.1183	-0.1183	ug/l	14.13	#VALUE!		333.35	390.01	396.68
75 As #2	0.001104	0.001104	ug/l	654.98	#VALUE!		17.00	12.33	14.33
78 Se #1	-0.01718	-0.01718	ug/l	16.40	#VALUE!		16.67	15.33	15.67
88 Sr #3	0.0003149	0.0003149	ug/l	331.53	#VALUE!		133.34	166.67	183.34
95 Mo #3	0.02905	0.02905	ug/l	48.47	#VALUE!		290.01	183.34	216.68
107 Ag #3	-0.00197	-0.00197	ug/l	108.98	#VALUE!		123.34	76.67	103.34
111 Cd #3	0.007981	0.007981	ug/l	72.51	#VALUE!		9.94	29.96	36.62
118 Sn #3	0.1175	0.1175	ug/l	11.56	#VALUE!		1673.47	1600.12	1490.11
121 Sb #3	0.02007	0.02007	ug/l	4.42	#VALUE!		226.67	220.01	213.34
137 Ba #3	0.0009186	0.0009186	ug/l	362.51	#VALUE!		30.00	40.00	56.67
202 Hg #3	0.001158	0.001158	ug/l	269.69	#VALUE!		138.34	125.00	121.00
205 Tl #3	-0.002566	-0.002566	ug/l	17.92	#VALUE!		140.01	116.67	126.67
208 Pb #3	0.001238	0.001238	ug/l	3054.90	#VALUE!		676.70	3057.73	663.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	411718.09	1.42	442436.88	93.1	60 - 125		405620.97	412237.38	417295.91
45 Sc #1	427466.72	0.01	456299.72	93.7	60 - 125		427434.31	427527.31	427438.53
45 Sc #3	703923.75	1.38	765061.25	92.0	60 - 125		692953.31	707401.38	711416.44
74 Ge #1	150336.09	0.26	153441.28	98.0	60 - 125		149926.45	150688.77	150393.08
74 Ge #2	43666.53	0.90	47804.94	91.3	60 - 125		43347.98	43544.03	44107.57
74 Ge #3	214425.67	0.35	224564.78	95.5	60 - 125		213677.86	215174.78	214424.38
89 Y #3	1250040.50	0.13	1302847.50	95.9	60 - 125		1249729.60	1248623.10	1251769.00
115 In #3	1330160.90	0.59	1366177.60	97.4	60 - 125		1323317.80	1328366.50	1338798.50
159 Tb #3	1974199.80	0.60	2052817.90	96.2	60 - 125		1961451.30	1976287.90	1984860.40
209 Bi #3	1330761.10	0.64	1405468.50	94.7	60 - 125		1323546.60	1328651.50	1340085.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\067SMPL.D\067SMPL.D#
 Date Acquired: Aug 24 2014 06:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-5-b
 Misc Info: 3050 1/5
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babha.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01425	0.01425	ug/l	45.68	100.00		40.00	20.00	20.00
11 B # 3	1.439	1.439	ug/l	3.86	1800.00		4323.91	4380.63	4277.23
23 Na # 1	2.164	2.164	ug/l	7.61	81000.00		99813.85	99214.19	99097.39
24 Mg # 1	27.69	27.69	ug/l	2.08	81000.00		66490.13	66354.27	64153.93
27 Al # 1	857.8	857.8	ug/l	1.20	81000.00		2394335.50	2392462.50	2346198.80
39 K # 2	11.86	11.86	ug/l	12.56	81000.00		16163.90	15453.34	16197.56
40 Ca # 1	331.8	331.8	ug/l	1.07	81000.00		2149180.80	2132168.80	2175558.50
47 Ti # 3	13.61	13.61	ug/l	14.17	1620.00		13301.13	12729.78	16630.16
51 V # 2	0.5425	0.5425	ug/l	5.34	1800.00		1620.09	1501.19	1573.42
52 Cr # 2	4.043	4.043	ug/l	0.74	1800.00		12319.69	12572.06	12537.60
55 Mn # 3	12.09	12.09	ug/l	0.25	1800.00		222118.91	222048.05	221656.80
56 Fe # 1	138.7	138.7	ug/l	0.55	81000.00		1168848.10	1167635.00	1159017.10
59 Co # 3	0.03236	0.03236	ug/l	15.08	1800.00		580.03	513.35	446.68
60 Ni # 2	0.6218	0.6218	ug/l	4.47	1800.00		702.24	738.91	783.36
63 Cu # 2	5.038	5.038	ug/l	1.22	1800.00		15757.92	15910.26	15811.30
66 Zn # 3	6.577	6.577	ug/l	0.55	1800.00		13728.77	13895.58	13818.88
75 As # 2	2.369	2.369	ug/l	3.47	100.00		806.35	774.02	778.69
78 Se # 1	0.06158	0.06158	ug/l	22.22	100.00		32.67	38.33	39.33
88 Sr # 3	8.939	8.939	ug/l	2.26	1800.00		214597.63	215389.00	224843.64
95 Mo # 3	0.04873	0.04873	ug/l	11.17	1800.00		283.35	293.35	333.35
107 Ag # 3	0.03047	0.03047	ug/l	13.60	100.00		483.35	460.02	410.02
111 Cd # 3	0.1026	0.1026	ug/l	14.76	100.00		263.28	266.61	209.93
118 Sn # 3	2.475	2.475	ug/l	2.47	1800.00		19177.66	18587.11	19034.27
121 Sb # 3	0.01525	0.01525	ug/l	16.36	100.00		150.01	173.34	200.01
137 Ba # 3	2.355	2.355	ug/l	1.10	1800.00		9202.75	9093.27	9409.55
202 Hg # 3	-0.008217	-0.008217	ug/l	22.49	5.00		103.67	92.67	96.67
205 Tl # 3	0.0008727	0.0008727	ug/l	130.97	20.00		246.68	186.67	220.01
208 Pb # 3	2.28	2.28	ug/l	0.69	1800.00		83825.64	83434.84	83669.02
232 Th # 3	0.1994	0.1994	ug/l	2.66	#VALUE!		8479.21	8119.13	8252.50
238 U # 3	0.1614	0.1614	ug/l	0.49	#VALUE!		6728.34	6758.40	6841.73

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	416322.22	0.78	442436.88	94.1	60 - 125		413782.13	415226.34	419958.22
45 Sc # 1	432606.63	0.18	456299.72	94.8	60 - 125		431766.34	433258.53	432794.97
45 Sc # 3	704467.50	0.75	765061.25	92.1	60 - 125		700216.38	702782.06	710403.94
74 Ge # 1	151786.70	0.07	153441.28	98.9	60 - 125		151836.94	151666.70	151856.45
74 Ge # 2	42905.51	1.31	47804.94	89.8	60 - 125		42325.68	42945.89	43444.96
74 Ge # 3	212906.14	0.14	224564.78	94.8	60 - 125		212577.56	212957.59	213183.28
89 Y # 3	1256015.00	1.12	1302847.50	96.4	60 - 125		1239835.60	1265149.90	1263059.60
115 In # 3	1310568.90	1.72	1366177.60	95.9	60 - 125		1291718.40	1304502.10	1335486.30
159 Tb # 3	1956734.40	0.64	2052817.90	95.3	60 - 125		1948183.30	1950917.90	1971101.60
209 Bi # 3	1342830.90	0.46	1405468.50	95.5	60 - 125		1336132.10	1343971.90	1348388.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\068SMPL.D\068SMPL.D#
 Date Acquired: Aug 24 2014 06:23 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-6-b
 Misc Info: 3050 1/5
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.01994	0.01994	ug/l	16.13	100.00		30.00	40.00	40.00
11 B # 3	1.115	1.115	ug/l	7.06	1800.00		3920.49	3853.82	3737.12
23 Na # 1	2.519	2.519	ug/l	156.49	81000.00		91181.66	91075.34	89486.95
24 Mg # 1	24.38	24.38	ug/l	13.61	81000.00		52660.27	52643.58	51225.98
27 Al # 1	1151	1151	ug/l	14.26	81000.00		2925642.50	2883645.30	2803322.00
39 K # 2	6.856	6.856	ug/l	21.09	81000.00		14462.61	14572.69	13985.53
40 Ca # 1	191.5	191.5	ug/l	14.05	81000.00		1144154.50	1131712.90	1107837.60
47 Ti # 3	14.8	14.8	ug/l	8.47	1620.00		15759.33	13922.03	16255.77
51 V # 2	0.5924	0.5924	ug/l	3.24	1800.00		1733.43	1646.75	1687.87
52 Cr # 2	3.121	3.121	ug/l	0.71	1800.00		9591.41	9717.02	9799.31
55 Mn # 3	8.091	8.091	ug/l	0.81	1800.00		148453.83	149129.56	148191.66
56 Fe # 1	317.6	317.6	ug/l	14.27	81000.00		2445549.30	2381349.30	2360487.50
59 Co # 3	0.04416	0.04416	ug/l	2.05	1800.00		683.37	666.70	673.36
60 Ni # 2	0.6884	0.6884	ug/l	1.61	1800.00		798.91	823.36	824.47
63 Cu # 2	1.726	1.726	ug/l	1.07	1800.00		5720.93	5624.23	5727.60
66 Zn # 3	3.568	3.568	ug/l	0.95	1800.00		7685.13	7698.49	7868.56
75 As # 2	1.799	1.799	ug/l	4.29	100.00		609.01	568.34	625.35
78 Se # 1	0.05375	0.05375	ug/l	16.21	100.00		29.67	33.00	32.00
88 Sr # 3	5.469	5.469	ug/l	0.50	1800.00		130969.75	133300.78	133228.70
95 Mo # 3	0.02309	0.02309	ug/l	38.51	1800.00		173.34	240.01	196.67
107 Ag # 3	0.02441	0.02441	ug/l	5.42	100.00		386.68	366.68	403.35
111 Cd # 3	0.03805	0.03805	ug/l	11.51	100.00		83.30	103.28	99.96
118 Sn # 3	2.502	2.502	ug/l	2.57	1800.00		19264.42	19177.72	18884.14
121 Sb # 3	0.01701	0.01701	ug/l	32.95	100.00		143.34	180.01	246.68
137 Ba # 3	1.615	1.615	ug/l	3.88	1800.00		6504.80	6328.05	6184.66
202 Hg # 3	-0.0075	-0.0075	ug/l	21.91	5.00		97.33	104.67	98.00
205 Tl # 3	-0.001113	-0.001113	ug/l	109.70	20.00		196.67	130.01	170.01
208 Pb # 3	1.123	1.123	ug/l	1.68	1800.00		42166.51	42049.81	41649.05
232 Th # 3	0.2238	0.2238	ug/l	0.59	#VALUE!		9259.69	9213.03	9143.02
238 U # 3	0.1148	0.1148	ug/l	0.72	#VALUE!		4764.20	4844.27	4787.58

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	413050.03	0.59	442436.88	93.4	60 - 125		412585.03	410862.97	415702.06
45 Sc # 1	393660.84	11.59	456299.72	86.3	60 - 125		341834.19	411443.19	427705.22
45 Sc # 3	698413.19	0.67	765061.25	91.3	60 - 125		693212.63	702380.88	699646.00
74 Ge # 1	138620.45	11.07	153441.28	90.3	60 - 125		120918.11	146667.95	148275.31
74 Ge # 2	42910.68	1.07	47804.94	89.8	60 - 125		42644.09	42645.21	43442.73
74 Ge # 3	212282.05	0.72	224564.78	94.5	60 - 125		210607.44	212655.08	213583.66
89 Y # 3	1245539.60	1.25	1302847.50	95.6	60 - 125		1228816.50	1248284.40	1259518.10
115 In # 3	1309090.50	1.46	1366177.60	95.8	60 - 125		1296485.10	1299666.30	1331120.30
159 Tb # 3	1959050.60	1.15	2052817.90	95.4	60 - 125		1963467.30	1934717.90	1978967.00
209 Bi # 3	1334446.40	0.20	1405468.50	94.9	60 - 125		1333950.10	1337263.40	1332125.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\069SMPL.D\069SMPL.D#
 Date Acquired: Aug 24 2014 06:31 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62424-a-7-b
 Misc Info: 3050 1/5
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babha.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006783	0.0006783	ug/l	160.40	100.00		0.00	3.33	3.33
11 B # 3	0.7051	0.7051	ug/l	4.33	1800.00		3217.03	3237.00	3197.01
23 Na # 1	-2.215	-2.215	ug/l	5.07	81000.00		82693.50	82653.31	82435.66
24 Mg # 1	1.644	1.644	ug/l	4.70	81000.00		4757.40	4570.69	4941.16
27 Al # 1	33.36	33.36	ug/l	1.88	81000.00		89640.83	91517.73	93502.49
39 K # 2	-1.959	-1.959	ug/l	47.24	81000.00		11483.99	11210.26	11257.04
40 Ca # 1	40.55	40.55	ug/l	0.03	81000.00		277015.53	277191.34	278353.66
47 Ti # 3	6.74	6.74	ug/l	10.81	1620.00		6529.84	7754.94	6440.21
51 V # 2	0.1956	0.1956	ug/l	3.20	1800.00		674.46	684.46	713.36
52 Cr # 2	0.8014	0.8014	ug/l	1.16	1800.00		2611.32	2682.43	2722.45
55 Mn # 3	2.188	2.188	ug/l	0.82	1800.00		40070.63	40117.10	41152.82
56 Fe # 1	24.09	24.09	ug/l	0.99	81000.00		202311.11	199348.36	199856.22
59 Co # 3	0.004899	0.004899	ug/l	14.03	1800.00		140.00	130.00	123.34
60 Ni # 2	0.2656	0.2656	ug/l	2.86	1800.00		331.12	332.23	348.90
63 Cu # 2	0.7189	0.7189	ug/l	2.00	1800.00		2573.53	2554.64	2555.75
66 Zn # 3	0.6684	0.6684	ug/l	4.97	1800.00		1900.16	1966.82	1856.81
75 As # 2	0.2134	0.2134	ug/l	14.01	100.00		73.00	93.33	80.00
78 Se # 1	-0.02985	-0.02985	ug/l	19.91	100.00		10.67	13.67	12.33
88 Sr # 3	0.5114	0.5114	ug/l	1.16	1800.00		12187.79	12424.64	12451.26
95 Mo # 3	-0.0007861	-0.0007861	ug/l	203.92	1800.00		110.00	113.34	103.34
107 Ag # 3	0.01408	0.01408	ug/l	5.27	100.00		256.68	273.34	276.68
111 Cd # 3	0.01321	0.01321	ug/l	48.06	100.00		29.98	53.31	26.64
118 Sn # 3	2.122	2.122	ug/l	2.82	1800.00		16321.44	15890.98	15881.05
121 Sb # 3	0.008077	0.008077	ug/l	17.25	100.00		96.67	106.67	123.34
137 Ba # 3	0.2435	0.2435	ug/l	1.32	1800.00		956.73	983.39	973.39
202 Hg # 3	-0.02119	-0.02119	ug/l	10.04	5.00		62.67	49.67	56.00
205 Tl # 3	-0.005088	-0.005088	ug/l	7.24	20.00		53.34	70.00	53.34
208 Pb # 3	0.215	0.215	ug/l	1.17	1800.00		9024.62	9087.99	8917.93
232 Th # 3	0.07333	0.07333	ug/l	8.05	#VALUE1		3127.08	3397.17	2970.38
238 U # 3	0.02763	0.02763	ug/l	4.17	#VALUE1		1150.09	1210.09	1130.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	407324.19	0.83	442436.88	92.1	60 - 125		404299.56	406669.16	411003.78
45 Sc # 1	421351.72	0.27	456299.72	92.3	60 - 125		420472.59	420923.56	422658.97
45 Sc # 3	686491.94	1.03	765061.25	89.7	60 - 125		679152.50	687026.75	693296.56
74 Ge # 1	145965.52	0.37	153441.28	95.1	60 - 125		146290.63	146261.02	145344.92
74 Ge # 2	42131.11	1.26	47804.94	88.1	60 - 125		41518.18	42433.72	42441.41
74 Ge # 3	208297.95	0.74	224564.78	92.8	60 - 125		207072.70	207779.44	210041.72
89 Y # 3	1228303.30	1.05	1302847.50	94.3	60 - 125		1222384.10	1219444.60	1243080.90
115 In # 3	1286795.10	1.25	1366177.60	94.2	60 - 125		1271701.80	1284986.50	1303697.10
159 Tb # 3	1924285.40	0.10	2052817.90	93.7	60 - 125		1922010.60	1925034.40	1925811.30
209 Bi # 3	1318435.50	0.78	1405468.50	93.8	60 - 125		1310950.10	1314187.90	1330168.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\070SMPL.D\070SMPL.D#
 Date Acquired: Aug 24 2014 06:38 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-1-b
 Misc Info: 3050 1/5
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.008256	0.008256	ug/l	86.56	100.00		10.00	6.67	30.00
11 B # 3	0.6472	0.6472	ug/l	14.49	1800.00		2973.64	3273.69	3153.66
23 Na # 1	-0.929	-0.929	ug/l	8.36	81000.00		86808.31	86750.48	87619.03
24 Mg # 1	11.88	11.88	ug/l	1.97	81000.00		27935.84	27486.91	28970.22
27 Al # 1	395.5	395.5	ug/l	0.75	81000.00		1069580.60	1058015.90	1089175.00
39 K # 2	0.7885	0.7885	ug/l	122.07	81000.00		12351.03	12214.31	11967.41
40 Ca # 1	184.3	184.3	ug/l	0.93	81000.00		1165864.00	1185856.30	1186835.10
47 Ti # 3	11.36	11.36	ug/l	5.23	1620.00		11784.23	11287.82	11231.87
51 V # 2	0.3496	0.3496	ug/l	7.32	1800.00		1126.71	1031.15	1040.04
52 Cr # 2	1.31	1.31	ug/l	3.28	1800.00		4270.53	4150.50	4099.37
55 Mn # 3	0.9817	0.9817	ug/l	3.27	1800.00		19006.90	18639.79	18803.45
56 Fe # 1	192.7	192.7	ug/l	2.07	81000.00		1609075.10	1563200.80	1569038.10
59 Co # 3	0.0181	0.0181	ug/l	15.43	1800.00		343.35	290.01	290.01
60 Ni # 2	0.4112	0.4112	ug/l	5.49	1800.00		465.57	502.23	523.35
63 Cu # 2	1.168	1.168	ug/l	1.58	1800.00		3901.55	3956.02	3878.21
66 Zn # 3	1.204	1.204	ug/l	4.23	1800.00		2990.32	2940.32	2910.31
75 As # 2	0.7944	0.7944	ug/l	1.76	100.00		260.34	270.34	273.67
78 Se # 1	-0.01716	-0.01716	ug/l	39.21	100.00		13.67	16.00	17.00
88 Sr # 3	2.97	2.97	ug/l	3.82	1800.00		71078.18	69745.82	69872.98
95 Mo # 3	-0.002509	-0.002509	ug/l	267.96	1800.00		126.67	90.00	86.67
107 Ag # 3	0.00255	0.00255	ug/l	89.73	100.00		163.34	146.67	123.34
111 Cd # 3	0.01136	0.01136	ug/l	12.18	100.00		29.97	29.98	36.65
118 Sn # 3	2.212	2.212	ug/l	2.01	1800.00		16321.45	16718.52	16628.42
121 Sb # 3	0.004958	0.004958	ug/l	17.58	100.00		76.67	90.00	76.67
137 Ba # 3	0.6834	0.6834	ug/l	5.16	1800.00		2666.96	2686.96	2553.61
202 Hg # 3	-0.01387	-0.01387	ug/l	26.15	5.00		73.33	92.00	70.33
205 Tl # 3	-0.00431	-0.00431	ug/l	17.88	20.00		90.00	56.67	90.00
208 Pb # 3	0.4915	0.4915	ug/l	4.69	1800.00		19221.92	18498.14	18631.59
232 Th # 3	0.2035	0.2035	ug/l	1.36	#VALUE!		7985.63	8509.28	8405.90
238 U # 3	0.0772	0.0772	ug/l	4.27	#VALUE!		3260.46	3223.78	3107.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406802.19	0.70	442436.88	91.9	60 - 125		403595.88	409052.66	407758.00
45 Sc # 1	422786.94	0.85	456299.72	92.7	60 - 125		420746.22	420692.44	426922.09
45 Sc # 3	678883.25	2.46	765061.25	88.7	60 - 125		659652.63	687120.38	689876.88
74 Ge # 1	147116.73	0.26	153441.28	95.9	60 - 125		147022.95	147543.89	146783.34
74 Ge # 2	42125.84	0.92	47804.94	88.1	60 - 125		41695.22	42229.81	42452.48
74 Ge # 3	207435.09	2.07	224564.78	92.4	60 - 125		202511.27	210363.14	209430.84
89 Y # 3	1215387.90	2.72	1302847.50	93.3	60 - 125		1177444.80	1230875.10	1237843.80
115 In # 3	1277058.60	2.89	1366177.60	93.5	60 - 125		1236637.30	1285461.60	1309077.00
159 Tb # 3	1921559.80	2.27	2052817.90	93.6	60 - 125		1871336.40	1944272.90	1949070.10
209 Bi # 3	1318738.50	2.10	1405468.50	93.8	60 - 125		1286802.80	1335788.10	1333624.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\071SMPL.D\071SMPL.D#
 Date Acquired: Aug 24 2014 06:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-2-b
 Misc Info: 3050 1/5
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.01202	0.01202	ug/l	24.16	100.00		23.33	26.67	16.67
11 B #3	0.6177	0.6177	ug/l	12.59	1800.00		3203.68	3013.64	3080.33
23 Na #1	0.2735	0.2735	ug/l	68.15	81000.00		91051.18	91030.81	90468.05
24 Mg #1	13	13	ug/l	0.55	81000.00		30701.75	30334.74	30845.39
27 Al #1	545.8	545.8	ug/l	1.83	81000.00		1497255.00	1483374.50	1451111.10
39 K #2	1.115	1.115	ug/l	52.57	81000.00		12187.57	12124.24	12514.59
40 Ca #1	167.8	167.8	ug/l	0.91	81000.00		1075690.90	1079539.40	1067630.10
47 Ti #3	11.34	11.34	ug/l	27.27	1620.00		14810.03	8798.54	10958.32
51 V #2	0.4259	0.4259	ug/l	3.11	1800.00		1236.72	1222.27	1296.72
52 Cr #2	1.555	1.555	ug/l	1.93	1800.00		4909.58	4877.35	4902.90
55 Mn #3	7.984	7.984	ug/l	1.33	1800.00		143499.67	143203.39	143723.41
56 Fe #1	174.8	174.8	ug/l	0.38	81000.00		1426551.30	1432221.60	1437273.30
59 Co #3	0.0282	0.0282	ug/l	18.86	1800.00		443.35	376.68	513.36
60 Ni #2	0.4394	0.4394	ug/l	4.92	1800.00		512.24	510.01	561.13
63 Cu #2	1.044	1.044	ug/l	2.85	1800.00		3565.93	3544.81	3499.25
66 Zn #3	1.136	1.136	ug/l	4.82	1800.00		2670.28	2936.99	2850.31
75 As #2	2.748	2.748	ug/l	3.29	100.00		906.36	896.02	876.69
78 Se #1	-0.005369	-0.005369	ug/l	164.56	100.00		16.67	18.00	21.00
88 Sr #3	2.736	2.736	ug/l	1.21	1800.00		65851.62	65155.61	64745.64
95 Mo #3	-0.002764	-0.002764	ug/l	129.02	1800.00		86.67	103.34	113.34
107 Ag #3	0.002545	0.002545	ug/l	35.08	100.00		140.00	140.00	156.67
111 Cd #3	0.01276	0.01276	ug/l	17.05	100.00		39.98	29.98	36.64
118 Sn #3	2.993	2.993	ug/l	1.91	1800.00		22141.25	22668.78	22007.83
121 Sb #3	0.005937	0.005937	ug/l	67.59	100.00		66.67	73.34	130.00
137 Ba #3	0.743	0.743	ug/l	3.89	1800.00		2917.01	2746.98	2973.67
202 Hg #3	-0.01698	-0.01698	ug/l	30.88	5.00		59.67	60.00	88.34
205 Tl #3	-0.004377	-0.004377	ug/l	24.86	20.00		46.67	103.34	83.34
208 Pb #3	0.7059	0.7059	ug/l	3.15	1800.00		27250.00	26199.41	26085.96
232 Th #3	0.1619	0.1619	ug/l	4.22	#VALUE!		6945.12	6421.55	6698.33
238 U #3	0.05776	0.05776	ug/l	3.80	#VALUE!		2300.24	2470.28	2463.61

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	407747.63	0.43	442436.88	92.2	60 - 125		405793.94	408273.06	409175.81
45 Sc #1	422229.34	0.33	456299.72	92.5	60 - 125		422319.63	420773.00	423595.47
45 Sc #3	685345.44	0.86	765061.25	89.6	60 - 125		679738.06	684777.94	691520.44
74 Ge #1	147061.73	0.18	153441.28	95.8	60 - 125		147306.27	147091.14	146787.80
74 Ge #2	42107.39	1.62	47804.94	88.1	60 - 125		41348.98	42306.77	42666.42
74 Ge #3	207701.59	1.18	224564.78	92.5	60 - 125		205672.75	210430.11	207001.95
89 Y #3	1224709.00	0.51	1302847.50	94.0	60 - 125		1218961.90	1231383.80	1223781.50
115 In #3	1283339.10	0.30	1366177.60	93.9	60 - 125		1286235.30	1279013.30	1284769.10
159 Tb #3	1930616.40	0.55	2052817.90	94.0	60 - 125		1918385.80	1935337.30	1938126.30
209 Bi #3	1324576.40	0.35	1405468.50	94.2	60 - 125		1320509.80	1323623.40	1329596.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\072SMPL.D\072SMPL.D#
 Date Acquired: Aug 24 2014 06:53 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-3-b
 Misc Info: 3050 1/5
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002618	0.002618	ug/l	42.51	100.00		6.67	3.33	6.67
11 B # 3	0.5848	0.5848	ug/l	4.32	1800.00		3036.97	3013.65	2983.64
23 Na # 1	-0.7696	-0.7696	ug/l	23.97	81000.00		87089.69	86979.28	88086.94
24 Mg # 1	19.37	19.37	ug/l	1.05	81000.00		45053.47	45567.79	44695.73
27 Al # 1	110.8	110.8	ug/l	2.07	81000.00		302295.06	306120.41	294168.22
39 K # 2	-0.649	-0.649	ug/l	41.11	81000.00		11640.57	11834.00	12137.58
40 Ca # 1	3589	3589	ug/l	0.59	81000.00		22358318.00	22421712.00	22607262.00
47 Ti # 3	7.026	7.026	ug/l	16.48	1620.00		8403.39	6752.34	6314.87
51 V # 2	0.2691	0.2691	ug/l	6.06	1800.00		896.70	891.14	852.25
52 Cr # 2	1.008	1.008	ug/l	4.58	1800.00		3131.40	3323.69	3512.89
55 Mn # 3	3.35	3.35	ug/l	1.02	1800.00		60572.37	61907.66	60937.19
56 Fe # 1	120.5	120.5	ug/l	0.17	81000.00		986779.38	987164.56	989595.38
59 Co # 3	0.009096	0.009096	ug/l	15.07	1800.00		176.67	176.67	210.01
60 Ni # 2	0.2492	0.2492	ug/l	4.63	1800.00		327.78	305.56	336.67
63 Cu # 2	1.798	1.798	ug/l	1.47	1800.00		5814.29	5890.99	5913.21
66 Zn # 3	1.425	1.425	ug/l	6.67	1800.00		3340.41	3227.04	3607.12
75 As # 2	0.9384	0.9384	ug/l	1.47	100.00		309.34	318.67	326.00
78 Se # 1	-0.02699	-0.02699	ug/l	9.66	100.00		12.33	13.00	13.67
88 Sr # 3	9.872	9.872	ug/l	0.46	1800.00		232579.53	236681.81	237505.91
95 Mo # 3	-0.006459	-0.006459	ug/l	84.92	1800.00		110.00	80.00	73.34
107 Ag # 3	0.00818	0.00818	ug/l	29.32	100.00		176.67	230.01	216.67
111 Cd # 3	0.03513	0.03513	ug/l	37.49	100.00		109.98	53.32	99.99
118 Sn # 3	2.1	2.1	ug/l	1.38	1800.00		15977.79	15850.96	16181.38
121 Sb # 3	0.008621	0.008621	ug/l	4.08	100.00		110.00	113.34	120.00
137 Ba # 3	0.6284	0.6284	ug/l	2.99	1800.00		2470.25	2500.25	2426.92
202 Hg # 3	-0.01923	-0.01923	ug/l	18.02	5.00		50.67	72.00	66.34
205 Tl # 3	-0.005327	-0.005327	ug/l	14.54	20.00		76.67	40.00	43.33
208 Pb # 3	0.434	0.434	ug/l	0.41	1800.00		16960.73	17077.50	16964.09
232 Th # 3	0.1436	0.1436	ug/l	1.52	#VALUE!		5908.03	6044.72	5944.70
238 U # 3	0.06519	0.06519	ug/l	2.12	#VALUE!		2653.65	2747.01	2756.99

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402079.19	0.36	442436.88	90.9	60 - 125		400489.72	403331.69	402416.09
45 Sc # 1	421851.53	0.07	456299.72	92.5	60 - 125		422131.50	421521.72	421901.44
45 Sc # 3	683193.25	0.91	765061.25	89.3	60 - 125		677454.44	682297.56	689827.94
74 Ge # 1	146587.02	0.08	153441.28	95.5	60 - 125		146477.38	146714.78	146568.91
74 Ge # 2	42634.83	1.87	47804.94	89.2	60 - 125		42126.23	42223.11	43555.16
74 Ge # 3	208136.44	0.50	224564.78	92.7	60 - 125		206984.38	208403.86	209021.09
89 Y # 3	1227594.90	0.70	1302847.50	94.2	60 - 125		1217678.50	1233106.00	1232000.30
115 In # 3	1296979.60	1.76	1366177.60	94.9	60 - 125		1275294.50	1294754.90	1320889.60
159 Tb # 3	1949600.60	0.74	2052817.90	95.0	60 - 125		1944639.40	1965856.30	1938305.80
209 Bi # 3	1325306.50	0.34	1405468.50	94.3	60 - 125		1325393.80	1320756.30	1329769.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICRMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\073SMPL.D\073SMPL.D#
 Date Acquired: Aug 24 2014 07:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-4-b
 Misc Info: 3050 1/5
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.02681	0.02681	ug/l	26.42	100.00		33.33	53.33	56.67
11 B # 3	0.495	0.495	ug/l	18.15	1800.00		3013.64	2836.96	2830.28
23 Na # 1	1.713	1.713	ug/l	12.34	81000.00		96459.73	97626.06	96497.20
24 Mg # 1	29.72	29.72	ug/l	1.65	81000.00		70952.48	68623.31	69492.75
27 Al # 1	531.7	531.7	ug/l	0.87	81000.00		1464366.40	1468898.00	1444304.10
39 K # 2	3.814	3.814	ug/l	25.23	81000.00		13488.53	13134.86	13428.44
40 Ca # 1	3814	3814	ug/l	0.52	81000.00		24374048.00	24204076.00	24090664.00
47 Ti # 3	12.53	12.53	ug/l	6.11	1620.00		11434.78	13179.15	13413.65
51 V # 2	0.6487	0.6487	ug/l	3.34	1800.00		1744.54	1883.45	1853.44
52 Cr # 2	1.989	1.989	ug/l	0.58	1800.00		6202.18	6296.66	6361.12
55 Mn # 3	1.882	1.882	ug/l	0.79	1800.00		34512.64	34833.17	35424.42
56 Fe # 1	422.4	422.4	ug/l	0.77	81000.00		3535282.80	3494023.50	3477636.80
59 Co # 3	0.0433	0.0433	ug/l	12.00	1800.00		696.70	676.70	573.36
60 Ni # 2	0.5031	0.5031	ug/l	12.34	1800.00		608.90	676.69	537.79
63 Cu # 2	0.6569	0.6569	ug/l	4.93	1800.00		2426.85	2317.94	2501.30
66 Zn # 3	0.6862	0.6862	ug/l	2.88	1800.00		1956.84	1953.49	1910.15
75 As # 2	1.368	1.368	ug/l	3.95	100.00		446.34	482.67	449.34
78 Se # 1	-0.006893	-0.006893	ug/l	129.83	100.00		17.67	16.33	21.00
88 Sr # 3	9.512	9.512	ug/l	1.61	1800.00		227451.50	228332.28	229294.94
95 Mo # 3	-0.001947	-0.001947	ug/l	276.01	1800.00		106.67	123.34	83.34
107 Ag # 3	-0.001326	-0.001326	ug/l	245.63	100.00		130.00	66.67	116.67
111 Cd # 3	0.009299	0.009299	ug/l	30.23	100.00		19.98	33.31	29.98
118 Sn # 3	2.687	2.687	ug/l	2.69	1800.00		20225.62	19921.90	20218.90
121 Sb # 3	0.008966	0.008966	ug/l	24.21	100.00		106.67	103.34	140.01
137 Ba # 3	0.8433	0.8433	ug/l	19.54	1800.00		3900.90	3017.03	2873.66
202 Hg # 3	-0.01318	-0.01318	ug/l	25.93	5.00		88.33	70.00	85.00
205 Tl # 3	-0.003978	-0.003978	ug/l	34.52	20.00		116.67	96.67	50.00
208 Pb # 3	0.829	0.829	ug/l	4.09	1800.00		31339.99	31169.85	30312.41
232 Th # 3	0.2551	0.2551	ug/l	0.05	#VALUE!		10190.31	10393.87	10483.90
238 U # 3	0.08013	0.08013	ug/l	6.52	#VALUE!		3503.84	3153.75	3317.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402846.09	0.70	442436.88	91.1	60 - 125		399947.03	402980.91	405610.34
45 Sc # 1	428132.03	0.08	456299.72	93.8	60 - 125		428503.59	427990.44	427902.13
45 Sc # 3	681175.13	2.58	765061.25	89.0	60 - 125		660872.50	691302.69	691350.25
74 Ge # 1	148325.84	0.70	153441.28	96.7	60 - 125		147334.31	148249.23	149394.00
74 Ge # 2	42847.97	1.09	47804.94	89.6	60 - 125		42306.69	43134.24	43102.97
74 Ge # 3	207998.42	0.84	224564.78	92.6	60 - 125		206006.19	208772.47	209216.64
89 Y # 3	1235132.00	1.96	1302847.50	94.8	60 - 125		1207632.10	1244491.00	1253272.50
115 In # 3	1287242.90	2.11	1366177.60	94.2	60 - 125		1256213.60	1298887.90	1306627.00
159 Tb # 3	1934571.30	2.27	2052817.90	94.2	60 - 125		1887327.50	1942422.00	1973963.90
209 Bi # 3	1321786.40	1.46	1405468.50	94.0	60 - 125		1300304.30	1327431.60	1337623.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\074SMPL.D\074SMPL.D#
 Date Acquired: Aug 24 2014 07:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-5-b
 Misc Info: 3050 1/5
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001927	0.001927	ug/l	112.61	100.00		6.67	6.67	0.00
11 B # 3	0.3606	0.3606	ug/l	15.81	1800.00		2676.93	2836.96	2770.28
23 Na # 1	-1.545	-1.545	ug/l	4.40	81000.00		86650.99	87097.67	86483.23
24 Mg # 1	5.937	5.937	ug/l	1.76	81000.00		14812.81	15166.96	14582.68
27 Al # 1	97.64	97.64	ug/l	3.33	81000.00		267801.00	265503.97	280081.38
39 K # 2	2.752	2.752	ug/l	30.85	81000.00		13204.91	13058.21	12934.76
40 Ca # 1	88.16	88.16	ug/l	0.40	81000.00		589200.56	587713.50	587726.94
47 Ti # 3	8.445	8.445	ug/l	39.75	1620.00		7330.29	6131.33	12682.36
51 V # 2	0.2346	0.2346	ug/l	3.29	1800.00		805.58	781.14	821.14
52 Cr # 2	0.9123	0.9123	ug/l	1.96	1800.00		3083.62	3065.83	3039.16
55 Mn # 3	7.104	7.104	ug/l	0.82	1800.00		128336.27	127942.85	128568.03
56 Fe # 1	56.24	56.24	ug/l	0.31	81000.00		473209.53	474068.13	472767.19
59 Co # 3	0.008579	0.008579	ug/l	31.40	1800.00		146.67	220.01	176.67
60 Ni # 2	0.7187	0.7187	ug/l	7.47	1800.00		790.03	917.81	847.81
63 Cu # 2	0.8689	0.8689	ug/l	1.99	1800.00		2984.72	3123.63	3121.40
66 Zn # 3	1.186	1.186	ug/l	2.27	1800.00		2863.64	2987.00	2933.65
75 As # 2	0.3483	0.3483	ug/l	2.28	100.00		128.00	125.00	130.67
78 Se # 1	-0.02206	-0.02206	ug/l	30.69	100.00		13.00	16.33	14.00
88 Sr # 3	1.496	1.496	ug/l	1.16	1800.00		35564.07	35182.02	35988.57
95 Mo # 3	-0.004343	-0.004343	ug/l	114.62	1800.00		80.00	93.34	116.67
107 Ag # 3	0.004163	0.004163	ug/l	20.04	100.00		160.00	176.67	160.01
111 Cd # 3	0.01583	0.01583	ug/l	32.26	100.00		56.65	33.31	39.98
118 Sn # 3	2.353	2.353	ug/l	1.00	1800.00		17919.72	17949.68	18016.40
121 Sb # 3	0.006645	0.006645	ug/l	34.43	100.00		80.00	120.00	93.34
137 Ba # 3	0.4167	0.4167	ug/l	1.14	1800.00		1653.47	1656.80	1666.80
202 Hg # 3	-0.01951	-0.01951	ug/l	6.27	5.00		60.00	59.33	67.00
205 Tl # 3	-0.005329	-0.005329	ug/l	8.18	20.00		46.67	66.67	46.67
208 Pb # 3	0.9134	0.9134	ug/l	1.94	1800.00		34075.43	34821.41	33825.13
232 Th # 3	0.121	0.121	ug/l	16.54	#VALUE!		4730.89	4517.47	6018.93
238 U # 3	0.0534	0.0534	ug/l	0.89	#VALUE!		2223.57	2226.90	2270.24

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	410456.53	0.16	442436.88	92.8	60 - 125		409982.59	410163.59	411223.41
45 Sc # 1	431177.88	0.41	456299.72	94.5	60 - 125		432004.22	432401.81	429127.47
45 Sc # 3	691960.25	0.67	765061.25	90.4	60 - 125		689803.63	688806.38	697270.75
74 Ge # 1	148575.05	0.38	153441.28	96.8	60 - 125		149218.92	148328.55	148177.64
74 Ge # 2	43025.04	1.04	47804.94	90.0	60 - 125		42558.41	43064.03	43452.67
74 Ge # 3	208463.30	0.88	224564.78	92.8	60 - 125		206680.16	208376.97	210332.73
89 Y # 3	1219250.30	0.82	1302847.50	93.6	60 - 125		1208306.90	1221663.30	1227780.90
115 In # 3	1305331.40	0.70	1366177.60	95.5	60 - 125		1310068.60	1311120.90	1294804.50
159 Tb # 3	1949995.40	0.90	2052817.90	95.0	60 - 125		1931543.80	1951947.60	1966494.40
209 Bi # 3	1329723.50	0.56	1405468.50	94.6	60 - 125		1321316.00	1332672.10	1335182.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\075SMPL.D\075SMPL.D#
 Date Acquired: Aug 24 2014 07:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-6-b
 Misc Info: 3050 1/5
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0183	0.0183	ug/l	53.93	100.00		43.33	43.33	13.33
11 B #3	0.5207	0.5207	ug/l	9.90	1800.00		3013.64	2900.41	3006.98
23 Na #1	3.967	3.967	ug/l	9.53	81000.00		105812.29	104631.98	104385.82
24 Mg #1	42.44	42.44	ug/l	0.79	81000.00		99640.49	99290.04	100094.44
27 Al #1	976.5	976.5	ug/l	0.34	81000.00		2671907.00	2718928.50	2696190.00
39 K #2	11.02	11.02	ug/l	5.31	81000.00		15460.01	15710.34	16030.47
40 Ca #1	3007	3007	ug/l	0.41	81000.00		19149050.00	19239930.00	19296744.00
47 Ti #3	16.59	16.59	ug/l	8.20	1620.00		15710.14	16874.05	18668.34
51 V #2	0.5463	0.5463	ug/l	2.50	1800.00		1572.30	1603.42	1566.75
52 Cr #2	2.791	2.791	ug/l	1.30	1800.00		8792.14	8715.44	8719.87
55 Mn #3	2.351	2.351	ug/l	0.78	1800.00		43197.49	43942.43	43772.65
56 Fe #1	210.8	210.8	ug/l	0.46	81000.00		1760992.50	1763680.60	1760230.80
59 Co #3	0.0419	0.0419	ug/l	0.75	1800.00		630.03	646.70	630.03
60 Ni #2	0.6462	0.6462	ug/l	0.50	1800.00		770.02	761.13	783.36
63 Cu #2	1.47	1.47	ug/l	3.76	1800.00		4751.76	5065.19	4959.60
66 Zn #3	1.67	1.67	ug/l	4.80	1800.00		4010.57	3993.87	3703.84
75 As #2	1.119	1.119	ug/l	1.89	100.00		377.67	385.01	379.00
78 Se #1	0.04663	0.04663	ug/l	30.05	100.00		36.33	32.33	29.00
88 Sr #3	15.21	15.21	ug/l	1.86	1800.00		368351.44	368222.38	360804.94
95 Mo #3	0.007402	0.007402	ug/l	29.88	1800.00		146.67	133.34	146.67
107 Ag #3	0.01043	0.01043	ug/l	26.86	100.00		256.68	243.34	200.01
111 Cd #3	0.03822	0.03822	ug/l	31.95	100.00		126.64	73.31	86.64
118 Sn #3	2.192	2.192	ug/l	3.28	1800.00		17202.30	16401.56	16761.92
121 Sb #3	0.007913	0.007913	ug/l	33.09	100.00		133.34	90.00	103.34
137 Ba #3	1.72	1.72	ug/l	2.04	1800.00		6838.23	6688.26	6678.17
202 Hg #3	-0.00993	-0.00993	ug/l	16.42	5.00		96.00	92.00	87.00
205 Tl #3	-0.002026	-0.002026	ug/l	20.38	20.00		150.01	140.00	130.01
208 Pb #3	1.287	1.287	ug/l	0.80	1800.00		47045.34	47949.74	47512.68
232 Th #3	0.2626	0.2626	ug/l	4.04	#VALUE!		10293.75	10760.74	10997.73
238 U #3	0.1039	0.1039	ug/l	0.73	#VALUE!		4310.74	4334.10	4314.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	408971.59	0.75	442436.88	92.4	60 - 125		405673.69	409512.34	411728.81
45 Sc #1	430852.69	0.53	456299.72	94.4	60 - 125		428534.22	433088.09	430935.72
45 Sc #3	695638.25	0.61	765061.25	90.9	60 - 125		690876.38	696889.06	699149.38
74 Ge #1	150453.05	0.19	153441.28	98.1	60 - 125		150657.75	150133.53	150567.83
74 Ge #2	43076.63	1.04	47804.94	90.1	60 - 125		42919.20	42726.52	43584.16
74 Ge #3	209714.86	0.84	224564.78	93.4	60 - 125		208824.66	211740.86	208579.08
89 Y #3	1237669.40	0.69	1302847.50	95.0	60 - 125		1231709.80	1233879.60	1247418.80
115 In #3	1306368.30	0.75	1366177.60	95.6	60 - 125		1296058.40	1315514.80	1307531.60
159 Tb #3	1943418.90	0.61	2052817.90	94.7	60 - 125		1930942.90	1944555.10	1954758.80
209 Bi #3	1326126.80	0.84	1405468.50	94.4	60 - 125		1330313.90	1334508.50	1313557.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\076SMPL.D\076SMPL.D#
 Date Acquired: Aug 24 2014 07:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62425-a-7-d
 Misc Info: 3050 1/5
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002548	0.002548	ug/l	86.38	100.00		10.00	3.33	3.33
11 B # 3	0.223	0.223	ug/l	48.57	1800.00		2623.59	2423.53	2703.60
23 Na # 1	-2.136	-2.136	ug/l	5.58	81000.00		83708.01	85102.60	85127.32
24 Mg # 1	6.954	6.954	ug/l	2.60	81000.00		17565.16	17027.94	16971.39
27 Al # 1	71.78	71.78	ug/l	3.85	81000.00		206294.72	199163.92	192767.11
39 K # 2	0.7616	0.7616	ug/l	133.14	81000.00		12024.18	12617.87	12704.59
40 Ca # 1	138	138	ug/l	0.12	81000.00		899923.63	910772.88	905429.44
47 Ti # 3	9.391	9.391	ug/l	5.38	1620.00		10267.43	9259.32	9709.53
51 V # 2	0.1916	0.1916	ug/l	4.30	1800.00		678.91	713.36	696.69
52 Cr # 2	0.6631	0.6631	ug/l	5.58	1800.00		2175.70	2380.17	2388.04
55 Mn # 3	0.8108	0.8108	ug/l	1.13	1800.00		15837.22	15910.53	16360.98
56 Fe # 1	43.93	43.93	ug/l	0.57	81000.00		370130.97	370244.97	369775.25
59 Co # 3	0.004694	0.004694	ug/l	43.97	1800.00		96.67	143.34	150.01
60 Ni # 2	0.3048	0.3048	ug/l	11.88	1800.00		356.67	431.13	378.90
63 Cu # 2	1.417	1.417	ug/l	2.89	1800.00		4866.24	4716.20	4715.09
66 Zn # 3	1.771	1.771	ug/l	3.25	1800.00		4110.57	3993.88	4257.28
75 As # 2	0.1872	0.1872	ug/l	2.31	100.00		75.67	73.00	77.33
78 Se # 1	-0.02741	-0.02741	ug/l	24.55	100.00		15.00	12.67	11.67
88 Sr # 3	1.386	1.386	ug/l	0.65	1800.00		32774.81	33097.74	33689.24
95 Mo # 3	-0.009725	-0.009725	ug/l	6.42	1800.00		76.67	76.67	73.34
107 Ag # 3	0.004852	0.004852	ug/l	42.54	100.00		150.00	170.01	196.67
111 Cd # 3	0.03939	0.03939	ug/l	19.43	100.00		116.65	93.32	83.32
118 Sn # 3	2.328	2.328	ug/l	0.70	1800.00		17699.43	17572.55	17796.28
121 Sb # 3	0.004927	0.004927	ug/l	9.11	100.00		80.00	86.67	80.00
137 Ba # 3	0.4255	0.4255	ug/l	6.41	1800.00		1656.81	1796.82	1600.14
202 Hg # 3	-0.02078	-0.02078	ug/l	18.87	5.00		51.00	72.67	51.00
205 Tl # 3	-0.005078	-0.005078	ug/l	2.36	20.00		60.00	63.34	56.67
208 Pb # 3	0.3593	0.3593	ug/l	3.73	1800.00		14766.47	14376.33	13849.39
232 Th # 3	0.09704	0.09704	ug/l	3.05	#VALUE!		4087.33	4097.34	4350.77
238 U # 3	0.04813	0.04813	ug/l	5.41	#VALUE!		2033.53	2146.98	1946.86

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	412799.78	1.04	442436.88	93.3	60 - 125		407845.19	415212.53	415341.59
45 Sc # 1	430468.38	0.56	456299.72	94.3	60 - 125		427807.38	432549.72	431048.09
45 Sc # 3	697932.06	0.49	765061.25	91.2	60 - 125		695463.25	696478.44	701854.50
74 Ge # 1	149080.92	0.38	153441.28	97.2	60 - 125		148601.25	149701.14	148940.34
74 Ge # 2	43087.39	1.34	47804.94	90.1	60 - 125		42830.12	42684.21	43747.84
74 Ge # 3	210707.36	0.81	224564.78	93.8	60 - 125		209079.59	210569.58	212472.91
89 Y # 3	1226955.80	0.76	1302847.50	94.2	60 - 125		1217858.80	1226499.40	1236509.10
115 In # 3	1298796.50	0.70	1366177.60	95.1	60 - 125		1290112.10	1298059.90	1308217.10
159 Tb # 3	1951454.10	0.44	2052817.90	95.1	60 - 125		1943789.10	1960802.50	1949770.60
209 Bi # 3	1343502.00	0.82	1405468.50	95.6	60 - 125		1332810.00	1342902.80	1354793.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\077_CCV.D\077_CCV.D#
 Date Acquired: Aug 24 2014 07:30 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.64 ug/l	1.27	50.00	89.5 - 110		88049.89	87765.01	88920.74
11 B	98.07 ug/l	1.08	100.00	89.5 - 110		138041.89	139243.02	140494.48
23 Na	5126 ug/l	0.79	5000.00	89.5 - 110		17465944.00	17398620.00	17469828.00
24 Mg	5131 ug/l	0.79	5000.00	89.5 - 110		12210113.00	12179176.00	12159699.00
27 Al	522.5 ug/l	0.73	500.00	89.5 - 110		1464273.10	1470465.10	1487044.50
39 K	4759 ug/l	0.93	5000.00	89.5 - 110		1576585.90	1615908.90	1624985.40
40 Ca	5199 ug/l	0.27	5000.00	89.5 - 110		33810204.00	34048684.00	33952748.00
47 Ti	50.68 ug/l	1.91	50.00	89.5 - 110		53138.98	54462.90	54650.39
51 V	48.74 ug/l	0.96	50.00	89.5 - 110		126064.99	126685.73	128758.71
52 Cr	48.9 ug/l	0.74	50.00	89.5 - 110		153533.25	154265.73	156070.67
55 Mn	504.5 ug/l	0.35	500.00	89.5 - 110		9320366.00	9315808.00	9449701.00
56 Fe	5317 ug/l	0.74	5000.00	89.5 - 110		45343972.00	45256664.00	45202044.00
59 Co	49.46 ug/l	0.13	50.00	89.5 - 110		691294.81	694075.00	699383.44
60 Ni	50.18 ug/l	1.20	50.00	89.5 - 110		58755.84	58305.48	59241.82
63 Cu	48.72 ug/l	0.45	50.00	89.5 - 110		155729.00	156868.02	157678.53
66 Zn	49.52 ug/l	1.85	50.00	89.5 - 110		101371.48	103402.66	100416.16
75 As	49.82 ug/l	0.65	50.00	89.5 - 110		16944.51	17024.58	17186.06
78 Se	51.61 ug/l	0.98	50.00	89.5 - 110		13755.19	13630.44	13596.75
88 Sr	49.05 ug/l	1.04	50.00	89.5 - 110		1188667.80	1203727.50	1210826.40
95 Mo	50.48 ug/l	0.30	50.00	89.5 - 110		193657.56	195703.17	195070.80
107 Ag	49.46 ug/l	0.28	50.00	89.5 - 110		527904.38	536717.31	535670.75
111 Cd	50.67 ug/l	0.63	50.00	89.5 - 110		117607.62	117573.64	119030.94
118 Sn	50.66 ug/l	1.00	50.00	89.5 - 110		372568.59	372274.19	369945.03
121 Sb	50.06 ug/l	0.68	50.00	89.5 - 110		438810.34	437760.66	441969.06
137 Ba	50.22 ug/l	1.29	50.00	89.5 - 110		196023.72	193150.92	195726.69
202 Hg	2.501 ug/l	1.77	2.50	89.5 - 110		8111.09	7854.29	8112.75
205 Tl	9.846 ug/l	1.04	10.00	89.5 - 110		263324.28	264946.16	262201.13
208 Pb	49.4 ug/l	0.61	50.00	89.5 - 110		1804580.40	1793440.40	1803772.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	410951.97	0.77	442436.88	92.9	60 - 125		408543.94	414561.59	409750.41
45 Sc	440080.72	0.61	456299.72	96.4	60 - 125		437090.84	442312.13	440839.09
45 Sc	723962.88	2.35	765061.25	94.6	60 - 125		714393.31	713924.25	743571.00
74 Ge	152389.45	0.37	153441.28	99.3	60 - 125		151740.80	152712.08	152715.48
74 Ge	44987.07	0.77	47804.94	94.1	60 - 125		44593.16	45249.16	45118.89
74 Ge	216507.19	0.49	224564.78	96.4	60 - 125		215701.19	216098.69	217721.66
89 Y	1260307.10	0.16	1302847.50	96.7	60 - 125		1262160.30	1258119.00	1260642.40
115 In	1302409.00	0.69	1366177.60	95.3	60 - 125		1292094.40	1306451.50	1308681.50
159 Tb	1975493.90	0.61	2052817.90	96.2	60 - 125		1966637.60	1970691.30	1989152.50
209 Bi	1305204.60	0.41	1405468.50	92.9	60 - 125		1307770.80	1299005.90	1308837.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\078_CCB.D\078_CCB.D#
 Date Acquired: Aug 24 2014 07:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0006518	0.0006518	ug/l	163.39	#VALUE!		0.00	3.33	3.33
11 B #3	1.256	1.256	ug/l	9.33	#VALUE!		4107.20	4147.21	3907.16
23 Na #1	-5.591	-5.591	ug/l	3.48	#VALUE!		73419.74	72820.76	73724.33
24 Mg #1	0.1777	0.1777	ug/l	24.01	#VALUE!		1560.10	1460.10	1350.09
27 Al #1	-0.04693	-0.04693	ug/l	60.20	#VALUE!		1366.76	1503.43	1483.43
39 K #2	-6.48	-6.48	ug/l	12.79	#VALUE!		10519.88	10426.48	10129.65
40 Ca #1	0.1047	0.1047	ug/l	38.08	#VALUE!		25387.63	25481.10	25684.70
47 Ti #3	-0.05681	-0.05681	ug/l	19.54	#VALUE!		33.33	43.33	56.67
51 V #2	0.006881	0.006881	ug/l	44.54	#VALUE!		237.78	248.89	236.67
52 Cr #2	-0.02256	-0.02256	ug/l	27.86	#VALUE!		236.67	234.45	272.23
55 Mn #3	0.01207	0.01207	ug/l	12.31	#VALUE!		1606.77	1656.79	1663.46
56 Fe #1	0.6056	0.6056	ug/l	1.19	#VALUE!		9399.26	9252.55	9292.54
59 Co #3	-0.0004163	-0.0004163	ug/l	91.59	#VALUE!		60.00	66.67	56.67
60 Ni #2	-0.01093	-0.01093	ug/l	75.44	#VALUE!		30.00	46.67	31.11
63 Cu #2	-0.06358	-0.06358	ug/l	3.01	#VALUE!		220.00	212.23	226.67
66 Zn #3	-0.09491	-0.09491	ug/l	4.59	#VALUE!		430.02	413.35	420.02
75 As #2	0.00597	0.00597	ug/l	84.69	#VALUE!		17.00	14.33	17.67
78 Se #1	-0.02303	-0.02303	ug/l	46.03	#VALUE!		15.00	16.67	11.33
88 Sr #3	0.000351	0.000351	ug/l	348.43	#VALUE!		186.67	130.00	173.34
95 Mo #3	0.03088	0.03088	ug/l	45.50	#VALUE!		296.68	200.01	210.01
107 Ag #3	-0.003542	-0.003542	ug/l	38.48	#VALUE!		66.67	86.67	96.67
111 Cd #3	0.001028	0.001028	ug/l	160.89	#VALUE!		13.27	6.62	6.62
118 Sn #3	0.1011	0.1011	ug/l	14.31	#VALUE!		1553.46	1360.10	1453.44
121 Sb #3	0.01674	0.01674	ug/l	9.66	#VALUE!		200.01	193.34	173.34
137 Ba #3	0.003825	0.003825	ug/l	59.37	#VALUE!		60.00	56.67	43.33
202 Hg #3	-0.002262	-0.002262	ug/l	145.67	#VALUE!		112.00	108.33	128.34
205 Tl #3	-0.003444	-0.003444	ug/l	9.99	#VALUE!		110.00	93.34	106.67
208 Pb #3	-0.02069	-0.02069	ug/l	5.54	#VALUE!		703.36	633.36	643.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	414966.91	1.21	442436.88	93.8	60 - 125		409623.75	415719.25	419557.75
45 Sc #1	431157.66	0.40	456299.72	94.5	60 - 125		432780.22	431370.81	429321.84
45 Sc #3	703462.88	1.21	765061.25	91.9	60 - 125		694470.13	711363.44	704555.00
74 Ge #1	150030.14	0.41	153441.28	97.8	60 - 125		150579.09	149375.98	150135.36
74 Ge #2	44078.23	0.68	47804.94	92.2	60 - 125		43907.13	43902.59	44424.98
74 Ge #3	214677.94	0.47	224564.78	95.6	60 - 125		214115.59	214078.53	215839.70
89 Y #3	1260758.40	1.05	1302847.50	96.8	60 - 125		1248568.90	1258815.40	1274891.00
115 In #3	1321561.00	0.74	1366177.60	96.7	60 - 125		1311429.40	1330879.10	1322374.60
159 Tb #3	1954921.30	0.54	2052817.90	95.2	60 - 125		1943096.30	1958651.30	1963016.30
209 Bi #3	1319288.80	0.78	1405468.50	93.9	60 - 125		1307478.50	1325962.90	1324424.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\079_QCS.D\079_QCS.D#
 Date Acquired: Aug 24 2014 07:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.11 ug/l	21.13	0.10 69.5 - 130	
11 B	20.16 ug/l	0.31	20.00 69.5 - 130	
23 Na	50.22 ug/l	0.16	50.00 69.5 - 130	
24 Mg	57.97 ug/l	0.63	50.00 69.5 - 130	
27 Al	11.47 ug/l	0.82	10.00 69.5 - 130	
39 K	43.40 ug/l	4.44	50.00 69.5 - 130	
40 Ca	59.94 ug/l	0.53	50.00 69.5 - 130	
47 Ti	0.99 ug/l	5.27	1.00 69.5 - 130	
51 V	1.00 ug/l	4.91	1.00 69.5 - 130	
52 Cr	1.01 ug/l	1.49	1.00 69.5 - 130	
55 Mn	1.06 ug/l	2.25	1.00 69.5 - 130	
56 Fe	23.43 ug/l	0.72	20.00 69.5 - 130	
59 Co	0.10 ug/l	2.99	0.10 69.5 - 130	
60 Ni	1.08 ug/l	3.59	1.00 69.5 - 130	
63 Cu	0.95 ug/l	1.50	1.00 69.5 - 130	
66 Zn	4.22 ug/l	0.70	4.00 69.5 - 130	
75 As	0.50 ug/l	10.27	0.50 69.5 - 130	
78 Se	0.46 ug/l	11.18	0.50 69.5 - 130	
88 Sr	0.20 ug/l	1.56	0.20 69.5 - 130	
95 Mo	0.96 ug/l	1.94	1.00 69.5 - 130	
107 Ag	0.21 ug/l	0.68	0.20 69.5 - 130	
111 Cd	0.08 ug/l	8.64	0.10 69.5 - 130	
118 Sn	1.09 ug/l	0.75	1.00 69.5 - 130	
121 Sb	1.00 ug/l	1.90	1.00 69.5 - 130	
137 Ba	0.99 ug/l	2.30	1.00 69.5 - 130	
202 Hg	0.16 ug/l	5.18	0.16 69.5 - 130	
205 Tl	0.19 ug/l	2.70	0.20 69.5 - 130	
208 Pb	0.29 ug/l	1.37	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	418325.91	0.45	442436.88	94.6	60 - 125	
45 Sc	432893.28	0.27	456299.72	94.9	60 - 125	
45 Sc	704941.13	0.83	765061.25	92.1	60 - 125	
74 Ge	150345.64	0.44	153441.28	98.0	60 - 125	
74 Ge	44232.70	1.05	47804.94	92.5	60 - 125	
74 Ge	215109.17	0.76	224564.78	95.8	60 - 125	
89 Y	1257841.00	0.64	1302847.50	96.5	60 - 125	
115 In	1327686.60	1.27	1366177.60	97.2	60 - 125	
159 Tb	1957160.60	0.83	2052817.90	95.3	60 - 125	
209 Bi	1334205.30	0.61	1405468.50	94.9	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\080_CCV.D\080_CCV.D#
 Date Acquired: Aug 24 2014 07:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.65 ug/l	0.25	50.00	89.5 - 110		87568.31	89058.29	89108.03
11 B	97.59 ug/l	0.59	100.00	89.5 - 110		136903.95	140458.66	139884.95
23 Na	5204 ug/l	0.38	5000.00	89.5 - 110		17553648.00	17648452.00	17526450.00
24 Mg	5176 ug/l	0.91	5000.00	89.5 - 110		12201747.00	12301976.00	12090394.00
27 Al	528.9 ug/l	0.44	500.00	89.5 - 110		1475066.60	1488752.60	1479220.40
39 K	4750 ug/l	1.01	5000.00	89.5 - 110		1578299.50	1595102.00	1634446.40
40 Ca	5222 ug/l	0.70	5000.00	89.5 - 110		33779700.00	34080284.00	33630372.00
47 Ti	51.12 ug/l	0.78	50.00	89.5 - 110		54095.14	53673.86	54318.97
51 V	49.07 ug/l	0.54	50.00	89.5 - 110		127424.35	128167.15	128431.77
52 Cr	48.81 ug/l	0.76	50.00	89.5 - 110		153071.63	155102.77	154807.75
55 Mn	505 ug/l	0.70	500.00	89.5 - 110		9359237.00	9365775.00	9413834.00
56 Fe	5342 ug/l	0.29	5000.00	89.5 - 110		45016980.00	45303480.00	45106884.00
59 Co	49.2 ug/l	0.89	50.00	89.5 - 110		691934.31	690155.19	693665.81
60 Ni	49.98 ug/l	0.36	50.00	89.5 - 110		57950.00	58402.52	59238.59
63 Cu	48.95 ug/l	0.19	50.00	89.5 - 110		156666.97	157200.08	158628.80
66 Zn	49.49 ug/l	0.28	50.00	89.5 - 110		101066.84	101998.00	102260.14
75 As	49.77 ug/l	0.40	50.00	89.5 - 110		16866.11	17043.59	17191.06
78 Se	51.4 ug/l	0.84	50.00	89.5 - 110		13628.77	13557.38	13392.59
88 Sr	49.04 ug/l	0.79	50.00	89.5 - 110		1193915.00	1208829.40	1221224.30
95 Mo	50 ug/l	0.84	50.00	89.5 - 110		193465.13	194148.98	196211.45
107 Ag	48.54 ug/l	1.00	50.00	89.5 - 110		523321.56	530201.13	530548.56
111 Cd	50.32 ug/l	0.66	50.00	89.5 - 110		118168.09	117487.04	119140.24
118 Sn	50.23 ug/l	0.72	50.00	89.5 - 110		371951.56	368412.38	374461.91
121 Sb	49.65 ug/l	1.23	50.00	89.5 - 110		436417.72	437019.69	445662.50
137 Ba	49.76 ug/l	1.15	50.00	89.5 - 110		193581.77	193706.98	197341.56
202 Hg	2.51 ug/l	0.25	2.50	89.5 - 110		7933.65	7952.66	8061.05
205 Tl	9.846 ug/l	0.85	10.00	89.5 - 110		261482.47	260802.66	261048.92
208 Pb	49.59 ug/l	0.66	50.00	89.5 - 110		1787584.40	1790532.00	1795674.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	412408.44	0.79	442436.88	93.2	60 - 125		408672.44	414728.00	413824.81
45 Sc	436825.72	0.10	456299.72	95.7	60 - 125		436364.56	436920.59	437191.97
45 Sc	716930.94	0.54	765061.25	93.7	60 - 125		712608.50	718056.69	720127.56
74 Ge	151514.69	0.16	153441.28	98.7	60 - 125		151769.55	151301.47	151473.02
74 Ge	44980.06	0.81	47804.94	94.1	60 - 125		44716.84	44824.82	45398.52
74 Ge	216717.86	0.90	224564.78	96.5	60 - 125		214513.02	217474.92	218165.64
89 Y	1267674.00	0.35	1302847.50	97.3	60 - 125		1263334.10	1267506.30	1272181.50
115 In	1313707.60	0.25	1366177.60	96.2	60 - 125		1317099.00	1310554.50	1313469.40
159 Tb	1957697.90	0.85	2052817.90	95.4	60 - 125		1950767.00	1945705.40	1976621.00
209 Bi	1304063.50	0.75	1405468.50	92.8	60 - 125		1294891.50	1302844.30	1314454.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\081_CCB.D\081_CCB.D#
 Date Acquired: Aug 24 2014 08:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002525	0.002525	ug/l	113.35	#VALUE!		10.00	0.00	6.67
11 B #3	1.647	1.647	ug/l	6.39	#VALUE!		4644.00	4654.01	4487.30
23 Na #1	-5.447	-5.447	ug/l	2.00	#VALUE!		73449.70	73928.38	72954.73
24 Mg #1	0.2437	0.2437	ug/l	4.97	#VALUE!		1593.45	1636.78	1576.78
27 Al #1	0.004485	0.004485	ug/l	562.54	#VALUE!		1506.77	1643.45	1606.78
39 K #2	-6.773	-6.773	ug/l	8.99	#VALUE!		10196.32	10012.89	10523.21
40 Ca #1	0.1046	0.1046	ug/l	91.58	#VALUE!		24790.05	25410.95	25981.54
47 Ti #3	-0.05662	-0.05662	ug/l	17.70	#VALUE!		53.34	33.33	46.67
51 V #2	0.005428	0.005428	ug/l	155.38	#VALUE!		234.45	215.56	261.12
52 Cr #2	-0.01876	-0.01876	ug/l	20.95	#VALUE!		253.34	271.12	252.23
55 Mn #3	0.02029	0.02029	ug/l	19.85	#VALUE!		1766.80	1713.46	1880.14
56 Fe #1	0.7013	0.7013	ug/l	2.39	#VALUE!		9929.60	10066.35	10196.39
59 Co #3	-0.0008856	-0.0008856	ug/l	172.43	#VALUE!		30.00	63.34	70.00
60 Ni #2	-0.01478	-0.01478	ug/l	35.59	#VALUE!		25.56	31.11	37.78
63 Cu #2	-0.06167	-0.06167	ug/l	8.68	#VALUE!		210.00	221.12	244.45
66 Zn #3	-0.0261	-0.0261	ug/l	231.46	#VALUE!		686.70	533.36	453.35
75 As #2	0.005083	0.005083	ug/l	16.79	#VALUE!		16.33	15.67	16.00
78 Se #1	-0.02484	-0.02484	ug/l	68.68	#VALUE!		15.00	17.67	9.00
88 Sr #3	0.001512	0.001512	ug/l	95.37	#VALUE!		213.34	150.01	210.01
95 Mo #3	0.02799	0.02799	ug/l	39.12	#VALUE!		246.68	173.34	250.01
107 Ag #3	-0.00206	-0.00206	ug/l	55.78	#VALUE!		110.00	100.00	86.67
111 Cd #3	0.001991	0.001991	ug/l	42.43	#VALUE!		13.28	9.96	9.95
118 Sn #3	0.1046	0.1046	ug/l	10.95	#VALUE!		1533.45	1493.44	1393.43
121 Sb #3	0.01723	0.01723	ug/l	5.65	#VALUE!		200.01	183.34	193.34
137 Ba #3	0.003589	0.003589	ug/l	127.50	#VALUE!		33.33	53.33	70.00
202 Hg #3	0.002704	0.002704	ug/l	191.68	#VALUE!		122.00	149.67	122.67
205 Tl #3	-0.004111	-0.004111	ug/l	5.97	#VALUE!		93.34	80.00	83.34
208 Pb #3	-0.02041	-0.02041	ug/l	4.78	#VALUE!		646.69	653.36	706.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	414107.69	1.25	442436.88	93.6	60 - 125		409947.03	412489.84	419886.25
45 Sc #1	429070.56	0.18	456299.72	94.0	60 - 125		428833.59	429950.13	428427.97
45 Sc #3	701498.44	0.79	765061.25	91.7	60 - 125		695840.94	701742.81	706911.63
74 Ge #1	150330.69	0.22	153441.28	98.0	60 - 125		149969.83	150415.36	150606.89
74 Ge #2	43990.33	0.61	47804.94	92.0	60 - 125		44029.79	43705.53	44235.68
74 Ge #3	213848.06	0.70	224564.78	95.2	60 - 125		212806.53	213179.22	215558.45
89 Y #3	1255862.60	0.76	1302847.50	96.4	60 - 125		1249747.30	1250951.50	1266889.00
115 In #3	1314353.90	0.88	1366177.60	96.2	60 - 125		1306270.90	1309252.30	1327538.40
159 Tb #3	1951093.50	0.53	2052817.90	95.0	60 - 125		1962961.30	1945174.50	1945145.00
209 Bi #3	1324827.90	0.39	1405468.50	94.3	60 - 125		1320527.60	1330616.30	1323340.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\082SMPL.D\082SMPL.D#
 Date Acquired: Aug 24 2014 08:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345407_1-a
 Misc Info: 3050 1/5
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006334	0.0006334	ug/l	331.39	100.00		0.00	0.00	6.67
11 B # 3	1.347	1.347	ug/l	8.01	1800.00		4087.19	4223.91	4433.96
23 Na # 1	-3.064	-3.064	ug/l	9.15	81000.00		83098.75	82523.10	81980.70
24 Mg # 1	0.767	0.767	ug/l	5.51	81000.00		2933.62	2870.30	2763.62
27 Al # 1	1.722	1.722	ug/l	2.85	81000.00		6287.97	6545.16	6368.06
39 K # 2	-3.109	-3.109	ug/l	20.87	81000.00		11553.82	11310.33	11490.50
40 Ca # 1	6.417	6.417	ug/l	1.06	81000.00		66620.76	66564.12	66390.00
47 Ti # 3	0.01297	0.01297	ug/l	107.63	1620.00		116.67	103.34	130.00
51 V # 2	0.1029	0.1029	ug/l	12.64	1800.00		516.68	460.01	480.01
52 Cr # 2	0.06989	0.06989	ug/l	7.34	1800.00		521.12	552.24	525.57
55 Mn # 3	0.1014	0.1014	ug/l	6.60	1800.00		3323.72	3130.35	3353.73
56 Fe # 1	2.466	2.466	ug/l	0.23	81000.00		25007.33	24987.34	25271.13
59 Co # 3	-7.44E-005	-7.44E-005	ug/l	164.63	1800.00		63.34	66.67	66.67
60 Ni # 2	0.19	0.19	ug/l	7.33	1800.00		281.12	257.78	258.89
63 Cu # 2	-0.02121	-0.02121	ug/l	45.66	1800.00		377.79	354.45	324.45
66 Zn # 3	0.3436	0.3436	ug/l	2.91	1800.00		1310.09	1313.42	1283.42
75 As # 2	0.03558	0.03558	ug/l	22.23	100.00		26.67	23.33	28.67
78 Se # 1	-0.03351	-0.03351	ug/l	19.90	100.00		10.67	10.67	13.67
88 Sr # 3	0.007221	0.007221	ug/l	32.17	1800.00		320.01	276.68	380.02
95 Mo # 3	0.01219	0.01219	ug/l	30.21	1800.00		163.34	146.67	173.34
107 Ag # 3	-0.002334	-0.002334	ug/l	75.02	100.00		83.34	86.67	116.67
111 Cd # 3	0.001542	0.001542	ug/l	93.77	100.00		9.96	6.63	13.30
118 Sn # 3	2.322	2.322	ug/l	0.75	1800.00		17709.51	17876.28	17789.48
121 Sb # 3	0.01291	0.01291	ug/l	11.74	100.00		166.67	140.01	153.34
137 Ba # 3	0.01333	0.01333	ug/l	24.83	1800.00		103.34	90.00	76.67
202 Hg # 3	-0.01699	-0.01699	ug/l	8.83	5.00		68.67	75.00	64.33
205 Tl # 3	-0.005481	-0.005481	ug/l	10.81	20.00		36.67	66.67	43.33
208 Pb # 3	-0.01012	-0.01012	ug/l	119.57	1800.00		907.16	1521.40	666.69
232 Th # 3	0.05632	0.05632	ug/l	6.79	#VALUE!		2656.99	2443.61	2346.91
238 U # 3	0.001491	0.001491	ug/l	19.86	#VALUE!		93.34	76.67	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	421463.34	0.52	442436.88	95.3	60 - 125		420229.53	420190.50	423970.00
45 Sc # 1	435567.31	0.48	456299.72	95.5	60 - 125		434033.31	434704.63	437963.94
45 Sc # 3	704276.25	0.97	765061.25	92.1	60 - 125		704111.56	711215.69	697501.44
74 Ge # 1	150765.31	0.39	153441.28	98.3	60 - 125		151408.98	150273.22	150613.70
74 Ge # 2	44029.60	1.07	47804.94	92.1	60 - 125		43512.87	44137.59	44438.35
74 Ge # 3	213583.14	0.38	224564.78	95.1	60 - 125		212706.41	213751.69	214291.34
89 Y # 3	1239363.50	1.21	1302847.50	95.1	60 - 125		1245224.30	1250546.50	1222319.80
115 In # 3	1309518.10	0.59	1366177.60	95.9	60 - 125		1313429.40	1314526.60	1300598.40
159 Tb # 3	1932012.90	1.46	2052817.90	94.1	60 - 125		1949975.40	1946453.80	1899609.50
209 Bi # 3	1311444.80	0.35	1405468.50	93.3	60 - 125		1316291.90	1310829.80	1307212.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\083SMPL.D\083SMPL.D#
 Date Acquired: Aug 24 2014 08:14 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345407_2-a
 Misc Info: 3050 1/5
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.69	10.69	ug/l	2.13	100.00		19893.84	20274.19	19666.88
11 B # 3	42.65	42.65	ug/l	0.66	1800.00		64804.38	64711.07	65282.51
23 Na # 1	1105	1105	ug/l	1.44	81000.00		3907762.00	3913831.50	3830030.00
24 Mg # 1	1127	1127	ug/l	0.11	81000.00		2708380.50	2701520.30	2718776.80
27 Al # 1	1102	1102	ug/l	0.19	81000.00		3144755.30	3144677.80	3148600.00
39 K # 2	1043	1043	ug/l	0.68	81000.00		356949.88	356700.47	361451.97
40 Ca # 1	1137	1137	ug/l	0.20	81000.00		7549201.50	7498535.00	7556047.50
47 Ti # 3	21.29	21.29	ug/l	1.13	1620.00		22961.39	22861.07	22954.49
51 V # 2	20.9	20.9	ug/l	1.46	1800.00		54428.57	53932.72	54134.50
52 Cr # 2	21.44	21.44	ug/l	0.12	1800.00		66637.84	67280.02	68111.98
55 Mn # 3	111.2	111.2	ug/l	0.91	1800.00		2059503.50	2069397.50	2066129.50
56 Fe # 1	1139	1139	ug/l	0.42	81000.00		9816127.00	9842351.00	9807434.00
59 Co # 3	10.91	10.91	ug/l	0.81	1800.00		152352.06	153839.56	153573.77
60 Ni # 2	21.99	21.99	ug/l	0.62	1800.00		25393.01	25382.98	25849.21
63 Cu # 2	21.09	21.09	ug/l	1.03	1800.00		67501.15	67277.16	67692.00
66 Zn # 3	21.29	21.29	ug/l	1.84	1800.00		44324.06	44230.47	43652.36
75 As # 2	21.11	21.11	ug/l	0.30	100.00		7107.72	7150.74	7238.11
78 Se # 1	21.44	21.44	ug/l	1.73	100.00		5715.57	5619.54	5773.93
88 Sr # 3	20.19	20.19	ug/l	0.58	1800.00		495268.00	497839.41	503946.03
95 Mo # 3	20.95	20.95	ug/l	1.06	1800.00		82246.44	82537.91	83492.28
107 Ag # 3	10.58	10.58	ug/l	1.06	100.00		115068.30	117262.84	118028.21
111 Cd # 3	10.6	10.6	ug/l	2.09	100.00		25664.71	25027.08	25076.98
118 Sn # 3	45.62	45.62	ug/l	0.47	1800.00		339513.06	343831.53	343593.03
121 Sb # 3	10.58	10.58	ug/l	0.88	100.00		94510.88	94933.08	95663.59
137 Ba # 3	20.91	20.91	ug/l	0.47	1800.00		82252.01	83558.92	83407.97
202 Hg # 3	0.9634	0.9634	ug/l	0.48	5.00		3153.99	3169.00	3184.66
205 Tl # 3	8.404	8.404	ug/l	0.89	20.00		225387.31	225166.81	224398.56
208 Pb # 3	10.69	10.69	ug/l	0.63	1800.00		391451.56	389857.97	390912.69
232 Th # 3	10.93	10.93	ug/l	0.38	#VALUE!		433503.69	434065.75	435298.84
238 U # 3	10.71	10.71	ug/l	0.55	#VALUE!		443109.25	441795.25	443508.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	431493.94	0.96	442436.88	97.5	60 - 125		427540.94	431143.50	435797.38
45 Sc # 1	445659.47	0.24	456299.72	97.7	60 - 125		445840.47	444520.41	446617.53
45 Sc # 3	728616.88	1.13	765061.25	95.2	60 - 125		721368.31	726918.00	737564.19
74 Ge # 1	152806.95	0.55	153441.28	99.6	60 - 125		153553.56	152968.47	151898.81
74 Ge # 2	44573.18	1.12	47804.94	93.2	60 - 125		44066.49	44590.97	45062.08
74 Ge # 3	216465.19	1.00	224564.78	96.4	60 - 125		214715.08	215806.97	218873.53
89 Y # 3	1271432.50	0.32	1302847.50	97.6	60 - 125		1267419.60	1271312.50	1275565.40
115 In # 3	1331977.50	0.78	1366177.60	97.5	60 - 125		1322677.50	1343135.00	1330120.00
159 Tb # 3	1975935.80	0.68	2052817.90	96.3	60 - 125		1971402.00	1965318.10	1991087.30
209 Bi # 3	1328375.60	0.39	1405468.50	94.5	60 - 125		1323218.60	1333537.90	1328370.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\084SMPL.D\084SMPL.D#
 Date Acquired: Aug 24 2014 08:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-d
 Misc Info: 3050 1/20
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.35712	0.08928	ug/l	16.59	100.00		143.34	150.00	193.34
11 B # 3	7.78	1.945	ug/l	6.67	1800.00		5110.79	4844.06	5207.49
23 Na # 1	405.2	101.3	ug/l	0.67	81000.00		432963.78	431041.28	432006.50
24 Mg # 1	2588.8	647.2	ug/l	0.89	81000.00		1529668.50	1520357.50	1514639.10
27 Al # 1	4792	1198	ug/l	0.11	81000.00		3341977.50	3322546.30	3360775.00
39 K # 2	883.2	220.8	ug/l	1.61	81000.00		84344.69	85617.23	86500.78
40 Ca # 1	32384	8096	ug/l	0.80	81000.00		52519204.00	52218584.00	52099844.00
47 Ti # 3	79.16	19.79	ug/l	2.57	1620.00		21320.92	20645.34	20481.63
51 V # 2	25.492	6.373	ug/l	1.05	1800.00		16480.67	16501.79	16824.29
52 Cr # 2	6.488	1.622	ug/l	1.34	1800.00		5314.13	5409.71	5386.38
55 Mn # 3	348.8	87.2	ug/l	0.92	1800.00		1606535.90	1589707.60	1597595.60
56 Fe # 1	9832	2458	ug/l	0.29	81000.00		20742430.00	20505476.00	20885490.00
59 Co # 3	6.82	1.705	ug/l	0.71	1800.00		23482.12	23632.26	23996.18
60 Ni # 2	13.98	3.495	ug/l	1.65	1800.00		4072.71	4011.58	4169.40
63 Cu # 2	4.04	1.01	ug/l	2.33	1800.00		3543.70	3642.61	3677.07
66 Zn # 3	18.988	4.747	ug/l	1.54	1800.00		9956.32	10246.45	10326.52
75 As # 2	3.3084	0.8271	ug/l	4.59	100.00		288.34	306.67	285.34
78 Se # 1	0.006812	0.001703	ug/l	287.73	100.00		19.33	21.00	22.00
88 Sr # 3	54.32	13.58	ug/l	0.54	1800.00		333716.41	338771.28	339817.50
95 Mo # 3	0.25256	0.06314	ug/l	10.03	1800.00		363.35	336.68	393.35
107 Ag # 3	-0.015956	-0.003989	ug/l	17.27	100.00		70.00	83.34	83.34
111 Cd # 3	0.07684	0.01921	ug/l	11.98	100.00		56.59	53.26	46.58
118 Sn # 3	2.57	0.6425	ug/l	0.57	1800.00		5471.03	5494.36	5571.07
121 Sb # 3	0.1756	0.0439	ug/l	6.15	100.00		443.35	446.68	410.02
137 Ba # 3	272.88	68.22	ug/l	1.28	1800.00		269617.88	271754.16	269834.81
202 Hg # 3	-0.04028	-0.01007	ug/l	8.13	5.00		94.33	91.00	90.67
205 Tl # 3	0.0924	0.0231	ug/l	4.68	20.00		770.04	820.05	833.39
208 Pb # 3	5.524	1.381	ug/l	1.02	1800.00		51454.39	51370.92	51097.00
232 Th # 3	3.6096	0.9024	ug/l	0.32	#VALUE!		36390.45	36470.31	36514.11
238 U # 3	0.4028	0.1007	ug/l	0.16	#VALUE!		4210.71	4254.05	4240.74

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	417264.34	0.25	442436.88	94.3	60 - 125		416312.47	417133.22	418347.31
45 Sc # 1	435507.84	0.63	456299.72	95.4	60 - 125		436002.00	432532.13	437989.34
45 Sc # 3	711356.81	0.80	765061.25	93.0	60 - 125		709860.44	706593.13	717616.88
74 Ge # 1	150043.00	0.52	153441.28	97.8	60 - 125		149715.38	149484.88	150928.70
74 Ge # 2	44385.28	0.42	47804.94	92.8	60 - 125		44492.94	44169.92	44492.97
74 Ge # 3	213651.27	0.47	224564.78	95.1	60 - 125		212557.63	213848.61	214547.55
89 Y # 3	1278238.40	0.89	1302847.50	98.1	60 - 125		1268480.00	1275404.60	1290830.40
115 In # 3	1329826.90	0.95	1366177.60	97.3	60 - 125		1326623.10	1319127.50	1343730.00
159 Tb # 3	1959722.50	0.63	2052817.90	95.5	60 - 125		1947494.10	1959387.90	1972285.10
209 Bi # 3	1341383.50	0.47	1405468.50	95.4	60 - 125		1334049.10	1345039.60	1345061.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\085SMPL.D\085SMPL.D#
 Date Acquired: Aug 24 2014 08:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dsd
 Misc Info: 3050 1/100
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 20.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 20.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.4292	0.02146	ug/l	14.02	100.00		36.67	46.67	36.67
11 B # 3	20.4	1.02	ug/l	17.82	1800.00		4010.52	3673.77	3590.42
23 Na # 1	329.2	16.46	ug/l	1.81	81000.00		147768.80	147375.13	149396.95
24 Mg # 1	2870	143.5	ug/l	0.53	81000.00		340135.63	335995.75	339992.41
27 Al # 1	5224	261.2	ug/l	0.52	81000.00		735378.44	725679.38	732929.13
39 K # 2	824	41.2	ug/l	0.44	81000.00		26048.45	26235.48	26819.67
40 Ca # 1	34000	1700	ug/l	0.51	81000.00		11084845.00	10936992.00	11032233.00
47 Ti # 3	81.12	4.056	ug/l	3.43	1620.00		4343.95	4230.58	4530.67
51 V # 2	26.46	1.323	ug/l	1.81	1800.00		3631.50	3685.95	3634.83
52 Cr # 2	6.338	0.3169	ug/l	0.91	1800.00		1308.95	1308.95	1328.95
55 Mn # 3	356.8	17.84	ug/l	0.18	1800.00		331462.88	332468.22	333598.66
56 Fe # 1	10266	513.3	ug/l	0.81	81000.00		4305050.50	4332297.50	4370673.50
59 Co # 3	7.02	0.351	ug/l	1.36	1800.00		4920.77	4990.81	5087.50
60 Ni # 2	13.778	0.6889	ug/l	4.55	1800.00		880.03	835.58	834.47
63 Cu # 2	3.04	0.152	ug/l	14.05	1800.00		827.80	915.59	988.93
66 Zn # 3	18.266	0.9133	ug/l	4.48	1800.00		2486.91	2563.60	2400.21
75 As # 2	3.454	0.1727	ug/l	6.11	100.00		75.00	69.00	75.67
78 Se # 1	-0.6568	-0.03284	ug/l	25.13	100.00		14.33	10.00	11.67
88 Sr # 3	57.14	2.857	ug/l	1.59	1800.00		70508.52	68875.96	70836.62
95 Mo # 3	0.0016446	8.223E-005	ug/l	3352.80	1800.00		126.67	113.34	106.67
107 Ag # 3	-0.07508	-0.003754	ug/l	45.69	100.00		100.00	80.00	63.34
111 Cd # 3	0.06746	0.003373	ug/l	64.54	100.00		19.97	13.31	9.98
118 Sn # 3	3.778	0.1889	ug/l	4.13	1800.00		2173.53	2060.19	2110.18
121 Sb # 3	0.2416	0.01208	ug/l	20.09	100.00		170.01	126.67	146.67
137 Ba # 3	282	14.1	ug/l	0.24	1800.00		55531.31	55236.82	56383.97
202 Hg # 3	-0.2562	-0.01281	ug/l	18.83	5.00		83.00	76.67	91.67
205 Tl # 3	0.013992	0.0006996	ug/l	57.05	20.00		226.68	206.67	210.01
208 Pb # 3	5.768	0.2884	ug/l	12.28	1800.00		11725.57	13245.00	10675.10
232 Th # 3	3.882	0.1941	ug/l	1.03	#VALUE!		8092.34	8099.03	8065.70
238 U # 3	0.433	0.02165	ug/l	5.35	#VALUE!		966.73	873.39	970.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	419242.56	1.03	442436.88	94.8	60 - 125		414454.72	422852.81	420420.19
45 Sc # 1	436221.31	0.17	456299.72	95.6	60 - 125		436855.50	435399.28	436409.09
45 Sc # 3	714472.56	1.20	765061.25	93.4	60 - 125		704684.94	718331.50	720401.19
74 Ge # 1	152782.38	0.26	153441.28	99.6	60 - 125		152914.72	153095.17	152337.22
74 Ge # 2	44704.58	1.42	47804.94	93.5	60 - 125		44132.13	44595.36	45386.25
74 Ge # 3	216525.64	0.40	224564.78	96.4	60 - 125		215536.08	216924.41	217116.42
89 Y # 3	1259628.30	1.10	1302847.50	96.7	60 - 125		1247077.50	1257284.80	1274522.50
115 In # 3	1325305.40	0.85	1366177.60	97.0	60 - 125		1320672.80	1317118.10	1338125.40
159 Tb # 3	1968095.00	0.08	2052817.90	95.9	60 - 125		1969192.30	1968869.50	1966223.30
209 Bi # 3	1344996.50	0.79	1405468.50	95.7	60 - 125		1345607.30	1334113.10	1355269.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\086SMPL.D\086SMPL.D#
 Date Acquired: Aug 24 2014 08:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dPDS
 Misc Info: 3050 1/20
 Vial Number: 2307
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	82.36	20.59	ug/l	1.45	100.00		38007.31	38234.46	36895.24
11 B # 3	167	41.75	ug/l	1.55	1800.00		62299.93	61825.16	63112.48
23 Na # 1	8996	2249	ug/l	0.31	81000.00		7858781.50	7794386.50	7801713.00
24 Mg # 1	11096	2774	ug/l	0.31	81000.00		6719725.00	6642058.00	6684520.50
27 Al # 1	5568	1392	ug/l	0.65	81000.00		3989761.30	3941791.50	4010033.30
39 K # 2	9176	2294	ug/l	2.09	81000.00		763669.13	784195.50	790802.38
40 Ca # 1	40920	10230	ug/l	0.12	81000.00		67786472.00	67536080.00	67856688.00
47 Ti # 3	162.16	40.54	ug/l	0.15	1620.00		43200.41	43494.37	44076.04
51 V # 2	107.84	26.96	ug/l	0.95	1800.00		69826.80	70766.97	70485.02
52 Cr # 2	89.2	22.3	ug/l	0.55	1800.00		70445.00	70874.31	70493.12
55 Mn # 3	1189.2	297.3	ug/l	0.71	1800.00		5498663.50	5550541.00	5531592.50
56 Fe # 1	18424	4606	ug/l	0.65	81000.00		39574768.00	39849072.00	39915068.00
59 Co # 3	89.72	22.43	ug/l	0.56	1800.00		313274.63	317371.56	316539.91
60 Ni # 2	96.92	24.23	ug/l	0.60	1800.00		28417.40	28503.10	28191.46
63 Cu # 2	86.84	21.71	ug/l	0.80	1800.00		69710.56	70466.71	69825.49
66 Zn # 3	101.52	25.38	ug/l	0.33	1800.00		52141.22	52619.35	52806.33
75 As # 2	86.64	21.66	ug/l	0.89	100.00		7375.83	7388.50	7476.21
78 Se # 1	84.92	21.23	ug/l	0.88	100.00		5624.55	5749.58	5645.22
88 Sr # 3	129.88	32.47	ug/l	0.80	1800.00		826037.06	827752.69	834472.31
95 Mo # 3	83.8	20.95	ug/l	0.18	1800.00		81529.94	81520.00	82363.81
107 Ag # 3	81.68	20.42	ug/l	0.88	100.00		223679.08	221581.34	222870.47
111 Cd # 3	83.28	20.82	ug/l	1.20	100.00		49439.41	48680.75	48987.95
118 Sn # 3	86.92	21.73	ug/l	0.46	1800.00		160067.14	161801.91	162659.22
121 Sb # 3	82.4	20.6	ug/l	0.98	100.00		182132.53	183979.75	182555.33
137 Ba # 3	356.36	89.09	ug/l	0.43	1800.00		347408.66	350193.69	351396.19
202 Hg # 3	4.068	1.017	ug/l	2.66	5.00		3375.70	3302.35	3267.34
205 Tl # 3	16.528	4.132	ug/l	1.19	20.00		110190.80	110274.58	109281.35
208 Pb # 3	88.28	22.07	ug/l	0.81	1800.00		798124.38	800511.94	799746.88
232 Th # 3	89.48	22.37	ug/l	0.15	#VALUE!		869489.88	867798.31	888918.13
238 U # 3	83	20.75	ug/l	0.95	#VALUE!		839715.56	847139.81	849263.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	423424.78	0.46	442436.88	95.7	60 - 125		424218.91	424828.00	421227.47
45 Sc # 1	446395.72	0.29	456299.72	97.8	60 - 125		447400.69	444945.34	446841.16
45 Sc # 3	728969.00	1.00	765061.25	95.3	60 - 125		723452.88	726267.94	737186.13
74 Ge # 1	153507.16	0.30	153441.28	100.0	60 - 125		153148.83	154031.80	153340.88
74 Ge # 2	44935.52	0.26	47804.94	94.0	60 - 125		45068.77	44851.65	44886.13
74 Ge # 3	216859.47	0.96	224564.78	96.6	60 - 125		214682.53	217079.73	218816.14
89 Y # 3	1314467.10	1.31	1302847.50	100.9	60 - 125		1305604.80	1303466.60	1334329.60
115 In # 3	1316638.50	0.74	1366177.60	96.4	60 - 125		1309726.50	1312348.40	1327840.60
159 Tb # 3	1961519.50	0.96	2052817.90	95.6	60 - 125		1940259.10	1975921.30	1968378.30
209 Bi # 3	1308967.60	1.27	1405468.50	93.1	60 - 125		1298925.50	1299871.50	1328105.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\087SMPL.D\087SMPL.D#
 Date Acquired: Aug 24 2014 08:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-e ms
 Misc Info: 3050 1/20
 Vial Number: 2308
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	10.912	2.728	ug/l	2.94	100.00		4990.77	5180.81	4900.74
11 B #3	43.56	10.89	ug/l	2.12	1800.00		18032.05	18445.72	17825.24
23 Na #1	1448.4	362.1	ug/l	0.95	81000.00		1334211.50	1342390.60	1340190.90
24 Mg #1	3363.6	840.9	ug/l	0.84	81000.00		2033671.60	2024303.30	2023213.10
27 Al #1	5476	1369	ug/l	1.08	81000.00		3954945.80	3895837.00	3902572.50
39 K #2	1780.8	445.2	ug/l	0.99	81000.00		160232.27	162461.88	166021.83
40 Ca #1	34172	8543	ug/l	0.68	81000.00		56487824.00	56566084.00	56667652.00
47 Ti #3	99.88	24.97	ug/l	0.56	1620.00		26776.37	26812.92	27050.10
51 V #2	41.08	10.27	ug/l	0.67	1800.00		27173.08	26997.30	27374.46
52 Cr #2	26.8	6.7	ug/l	0.82	1800.00		21496.87	21729.36	21633.68
55 Mn #3	377.44	94.36	ug/l	0.74	1800.00		1753400.60	1732398.30	1760059.80
56 Fe #1	11028	2757	ug/l	0.65	81000.00		23837542.00	23790432.00	23842852.00
59 Co #3	15.176	3.794	ug/l	1.01	1800.00		52943.28	53527.70	53304.02
60 Ni #2	30.572	7.643	ug/l	2.86	1800.00		9257.94	9006.71	8903.33
63 Cu #2	24.472	6.118	ug/l	0.83	1800.00		20045.38	20331.36	20232.27
66 Zn #3	38.436	9.609	ug/l	1.63	1800.00		19901.20	20461.87	20228.32
75 As #2	24.98	6.245	ug/l	0.76	100.00		2149.80	2177.80	2169.47
78 Se #1	21.068	5.267	ug/l	1.67	100.00		1429.73	1387.06	1443.39
88 Sr #3	69.92	17.48	ug/l	0.88	1800.00		446933.63	449089.94	446562.28
95 Mo #3	20.004	5.001	ug/l	2.74	1800.00		19301.04	20201.91	19761.48
107 Ag #3	10.528	2.632	ug/l	0.71	100.00		29084.64	28660.70	29331.83
111 Cd #3	10.628	2.657	ug/l	1.83	100.00		6143.70	6346.90	6443.68
118 Sn #3	45.36	11.34	ug/l	0.77	1800.00		85309.04	84592.75	85795.16
121 Sb #3	5.82	1.455	ug/l	2.12	100.00		13255.40	12911.77	12975.22
137 Ba #3	231.96	57.99	ug/l	1.40	1800.00		228774.94	229947.86	229050.75
202 Hg #3	0.936	0.234	ug/l	1.67	5.00		853.02	871.36	847.03
205 Tl #3	8.264	2.066	ug/l	0.92	20.00		55521.26	54962.88	54587.93
208 Pb #3	15.552	3.888	ug/l	0.19	1800.00		142012.45	141738.48	141988.27
232 Th #3	13.66	3.415	ug/l	1.27	#VALUE!		136272.75	136216.09	135317.73
238 U #3	10.932	2.733	ug/l	0.65	#VALUE!		111536.08	113211.48	114565.51

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	425683.19	0.24	442436.88	96.2	60 - 125		424697.06	425620.19	426732.31
45 Sc #1	446647.66	0.76	456299.72	97.9	60 - 125		446479.50	443347.13	450116.31
45 Sc #3	728643.88	1.09	765061.25	95.2	60 - 125		724664.31	723488.75	737778.63
74 Ge #1	153170.98	0.47	153441.28	99.8	60 - 125		153678.78	152354.47	153479.70
74 Ge #2	45308.26	0.88	47804.94	94.8	60 - 125		44953.01	45229.13	45742.64
74 Ge #3	216066.08	0.94	224564.78	96.2	60 - 125		214807.48	214972.31	218418.45
89 Y #3	1317273.40	0.82	1302847.50	101.1	60 - 125		1305883.10	1318636.00	1327300.90
115 In #3	1326272.00	1.29	1366177.60	97.1	60 - 125		1318167.10	1314780.10	1345868.80
159 Tb #3	1959998.50	0.09	2052817.90	95.5	60 - 125		1958163.10	1961509.80	1960322.50
209 Bi #3	1329066.90	0.88	1405468.50	94.6	60 - 125		1320513.40	1324332.10	1342355.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\088SMPL.D\088SMPL.D#
 Date Acquired: Aug 24 2014 08:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-f msd
 Misc Info: 3050 1/20
 Vial Number: 2309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.428	2.607	ug/l	2.98	100.00		4844.05	4954.09	4670.67
11 B # 3	43.04	10.76	ug/l	0.88	1800.00		17868.67	17928.59	18165.47
23 Na # 1	1406.8	351.7	ug/l	1.36	81000.00		1292766.90	1310925.00	1320808.50
24 Mg # 1	3022.8	755.7	ug/l	0.50	81000.00		1822399.50	1828445.00	1834082.90
27 Al # 1	4940	1235	ug/l	0.49	81000.00		3537363.30	3552225.30	3552531.50
39 K # 2	1675.2	418.8	ug/l	1.15	81000.00		153982.17	154826.75	156273.64
40 Ca # 1	25680	6420	ug/l	0.68	81000.00		42619140.00	42881128.00	42514000.00
47 Ti # 3	95.04	23.76	ug/l	2.53	1620.00		26119.52	25554.87	25811.77
51 V # 2	39.48	9.87	ug/l	0.82	1800.00		26049.31	26395.28	26429.80
52 Cr # 2	25.92	6.48	ug/l	1.52	1800.00		21252.18	20847.25	21071.96
55 Mn # 3	321.36	80.34	ug/l	0.65	1800.00		1501957.30	1496754.10	1491713.30
56 Fe # 1	10052	2513	ug/l	0.43	81000.00		21950254.00	21710254.00	21716876.00
59 Co # 3	14.608	3.652	ug/l	1.33	1800.00		52067.11	51542.20	50990.82
60 Ni # 2	29.384	7.346	ug/l	0.91	1800.00		8775.48	8879.97	8640.97
63 Cu # 2	23.972	5.993	ug/l	1.41	1800.00		19957.52	19755.06	20076.54
66 Zn # 3	36.964	9.241	ug/l	1.49	1800.00		19367.29	19327.30	19951.28
75 As # 2	24.108	6.027	ug/l	1.03	100.00		2088.13	2103.79	2120.80
78 Se # 1	21.144	5.286	ug/l	0.41	100.00		1431.06	1440.06	1430.73
88 Sr # 3	60.16	15.04	ug/l	1.23	1800.00		376302.69	380716.50	380060.34
95 Mo # 3	19.792	4.948	ug/l	1.72	1800.00		19711.47	19798.19	19317.62
107 Ag # 3	10.484	2.621	ug/l	1.03	100.00		28831.06	29278.34	28861.12
111 Cd # 3	10.176	2.544	ug/l	4.30	100.00		6330.33	5976.85	5880.24
118 Sn # 3	44.84	11.21	ug/l	1.13	1800.00		84163.88	85466.77	84076.69
121 Sb # 3	5.9	1.475	ug/l	0.43	100.00		13185.35	13322.24	13308.78
137 Ba # 3	290.72	72.68	ug/l	0.51	1800.00		288828.34	287241.50	288655.16
202 Hg # 3	0.9028	0.2257	ug/l	3.04	5.00		856.36	839.02	821.02
205 Tl # 3	8.144	2.036	ug/l	0.67	20.00		54811.69	54520.88	54848.85
208 Pb # 3	14.948	3.737	ug/l	1.40	1800.00		135873.73	136884.44	140390.89
232 Th # 3	13.296	3.324	ug/l	0.40	#VALUE!		132141.86	132503.41	131938.95
238 U # 3	10.716	2.679	ug/l	1.68	#VALUE!		108516.49	111020.61	112851.77

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	427542.19	0.20	442436.88	96.6	60 - 125		426548.72	428094.63	427983.22
45 Sc # 1	448234.59	0.27	456299.72	98.2	60 - 125		449376.03	446945.16	448382.56
45 Sc # 3	735841.50	1.42	765061.25	96.2	60 - 125		724894.44	745769.38	736860.69
74 Ge # 1	154143.63	0.32	153441.28	100.5	60 - 125		153587.14	154335.63	154508.08
74 Ge # 2	45605.30	0.59	47804.94	95.4	60 - 125		45472.00	45913.09	45430.79
74 Ge # 3	217183.77	0.35	224564.78	96.7	60 - 125		216870.20	216637.50	218043.61
89 Y # 3	1297019.60	1.81	1302847.50	99.6	60 - 125		1270145.00	1307019.00	1313895.00
115 In # 3	1330543.90	0.44	1366177.60	97.4	60 - 125		1325517.80	1329074.10	1337039.80
159 Tb # 3	1978277.90	0.99	2052817.90	96.4	60 - 125		1982789.50	1956884.50	1995159.80
209 Bi # 3	1327855.90	0.29	1405468.50	94.5	60 - 125		1323848.40	1328309.60	1331409.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\089SMPL.D\089SMPL.D#
 Date Acquired: Aug 24 2014 08:59 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-2-b
 Misc Info: 3050 1/20
 Vial Number: 2310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.29384	0.07346	ug/l	25.46	100.00		140.00	173.34	103.34
11 B #3	5.348	1.337	ug/l	1.33	1800.00		4340.60	4337.27	4397.27
23 Na #1	272.36	68.09	ug/l	0.84	81000.00		328244.28	331393.31	330006.00
24 Mg #1	2003.2	500.8	ug/l	0.80	81000.00		1204217.90	1225557.30	1201975.00
27 Al #1	3775.2	943.8	ug/l	0.58	81000.00		2694973.30	2717414.50	2709273.80
39 K #2	681.2	170.3	ug/l	1.32	81000.00		69508.15	71064.02	72314.80
40 Ca #1	31968	7992	ug/l	0.46	81000.00		52858424.00	53320344.00	52991384.00
47 Ti #3	73.72	18.43	ug/l	1.25	1620.00		20111.20	20064.75	19740.87
51 V #2	20.52	5.13	ug/l	1.16	1800.00		13543.88	13955.28	13987.52
52 Cr #2	5.5	1.375	ug/l	3.09	1800.00		4628.38	4895.12	4709.52
55 Mn #3	235.08	58.77	ug/l	1.34	1800.00		1090177.90	1119133.00	1114619.50
56 Fe #1	9312	2328	ug/l	0.54	81000.00		20303120.00	20245252.00	19957004.00
59 Co #3	4.04	1.01	ug/l	0.78	1800.00		14232.51	14522.77	14669.46
60 Ni #2	8.232	2.058	ug/l	1.94	1800.00		2517.97	2444.63	2540.20
63 Cu #2	4.032	1.008	ug/l	1.39	1800.00		3722.63	3668.18	3788.20
66 Zn #3	16.044	4.011	ug/l	2.85	1800.00		9119.16	8758.99	8935.76
75 As #2	4.18	1.045	ug/l	2.57	100.00		366.67	377.00	392.34
78 Se #1	-0.004396	-0.001099	ug/l	526.21	100.00		20.67	19.00	22.00
88 Sr #3	48.6	12.15	ug/l	0.10	1800.00		308022.88	305957.34	313425.38
95 Mo #3	0.23092	0.05773	ug/l	18.86	1800.00		320.01	390.02	323.35
107 Ag #3	-0.012456	-0.003114	ug/l	36.64	100.00		90.00	100.00	76.67
111 Cd #3	0.06904	0.01726	ug/l	25.79	100.00		49.93	56.58	36.60
118 Sn #3	3.086	0.7715	ug/l	5.50	1800.00		6888.23	6224.63	6418.05
121 Sb #3	0.18744	0.04686	ug/l	6.86	100.00		443.35	490.02	453.35
137 Ba #3	253.28	63.32	ug/l	0.69	1800.00		251955.56	251371.14	253459.92
202 Hg #3	-0.03924	-0.00981	ug/l	28.70	5.00		99.00	97.34	83.67
205 Tl #3	0.05356	0.01339	ug/l	6.14	20.00		533.36	546.69	580.03
208 Pb #3	4.668	1.167	ug/l	1.86	1800.00		43358.00	44382.19	43741.49
232 Th #3	2.904	0.726	ug/l	1.15	#VALUE!		28901.02	29525.76	29505.38
238 U #3	0.37656	0.09414	ug/l	1.20	#VALUE!		3947.31	3930.63	3973.99

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	433789.38	0.54	442436.88	98.0	60 - 125		431126.44	434637.69	435603.94
45 Sc #1	447723.41	0.44	456299.72	98.1	60 - 125		448369.09	449289.13	445512.13
45 Sc #3	732574.50	0.28	765061.25	95.8	60 - 125		730291.88	733167.19	734264.44
74 Ge #1	153875.25	0.25	153441.28	100.3	60 - 125		153580.38	154317.88	153727.53
74 Ge #2	45772.40	0.94	47804.94	95.7	60 - 125		45378.48	45707.04	46231.69
74 Ge #3	219710.72	1.36	224564.78	97.8	60 - 125		217464.05	218567.28	223100.83
89 Y #3	1309189.50	1.21	1302847.50	100.5	60 - 125		1305969.00	1295186.40	1326412.90
115 In #3	1336628.40	1.06	1366177.60	97.8	60 - 125		1338928.00	1321439.00	1349518.10
159 Tb #3	1971057.60	0.73	2052817.90	96.0	60 - 125		1973982.60	1955370.80	1983819.50
209 Bi #3	1337830.50	0.67	1405468.50	95.2	60 - 125		1333990.90	1348137.10	1331363.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\090_QCS.D\090_QCS.D#
 Date Acquired: Aug 24 2014 09:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	14.63	0.10 69.5 - 130	
11 B	19.95 ug/l	0.33	20.00 69.5 - 130	
23 Na	50.27 ug/l	0.93	50.00 69.5 - 130	
24 Mg	57.75 ug/l	0.18	50.00 69.5 - 130	
27 Al	11.47 ug/l	0.26	10.00 69.5 - 130	
39 K	45.76 ug/l	3.08	50.00 69.5 - 130	
40 Ca	60.37 ug/l	0.22	50.00 69.5 - 130	
47 Ti	0.94 ug/l	4.88	1.00 69.5 - 130	
51 V	1.01 ug/l	1.52	1.00 69.5 - 130	
52 Cr	1.03 ug/l	2.54	1.00 69.5 - 130	
55 Mn	1.07 ug/l	0.85	1.00 69.5 - 130	
56 Fe	23.59 ug/l	1.19	20.00 69.5 - 130	
59 Co	0.10 ug/l	3.95	0.10 69.5 - 130	
60 Ni	1.12 ug/l	4.26	1.00 69.5 - 130	
63 Cu	0.94 ug/l	1.03	1.00 69.5 - 130	
66 Zn	4.20 ug/l	1.06	4.00 69.5 - 130	
75 As	0.52 ug/l	3.08	0.50 69.5 - 130	
78 Se	0.45 ug/l	4.06	0.50 69.5 - 130	
88 Sr	0.19 ug/l	2.17	0.20 69.5 - 130	
95 Mo	0.96 ug/l	5.43	1.00 69.5 - 130	
107 Ag	0.20 ug/l	3.81	0.20 69.5 - 130	
111 Cd	0.10 ug/l	11.45	0.10 69.5 - 130	
118 Sn	1.09 ug/l	1.77	1.00 69.5 - 130	
121 Sb	0.99 ug/l	2.28	1.00 69.5 - 130	
137 Ba	1.01 ug/l	6.19	1.00 69.5 - 130	
202 Hg	0.14 ug/l	3.78	0.16 69.5 - 130	
205 Tl	0.20 ug/l	4.58	0.20 69.5 - 130	
208 Pb	0.28 ug/l	6.77	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	427548.72	0.69	442436.88	96.6	60 - 125		
45 Sc	442320.88	0.19	456299.72	96.9	60 - 125		
45 Sc	720202.88	0.67	765061.25	94.1	60 - 125		
74 Ge	152841.98	0.26	153441.28	99.6	60 - 125		
74 Ge	45104.09	0.34	47804.94	94.4	60 - 125		
74 Ge	217997.20	0.69	224564.78	97.1	60 - 125		
89 Y	1277106.80	0.40	1302847.50	98.0	60 - 125		
115 In	1329408.90	0.96	1366177.60	97.3	60 - 125		
159 Tb	1950853.80	0.83	2052817.90	95.0	60 - 125		
209 Bi	1312520.00	0.62	1405468.50	93.4	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\091_CCV.D\091_CCV.D#
 Date Acquired: Aug 24 2014 09:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.09 ug/l	1.65	50.00	89.5 - 110		88029.80	89402.91	88421.43
11 B	98.1 ug/l	0.86	100.00	89.5 - 110		141349.92	141411.28	141645.53
23 Na	5225 ug/l	0.99	5000.00	89.5 - 110		17907252.00	18036794.00	17792400.00
24 Mg	5199 ug/l	1.12	5000.00	89.5 - 110		12429917.00	12557443.00	12324165.00
27 Al	526.3 ug/l	0.50	500.00	89.5 - 110		1472660.80	1510810.40	1504093.90
39 K	4910 ug/l	0.59	5000.00	89.5 - 110		1657047.10	1670446.40	1659247.50
40 Ca	5263 ug/l	0.70	5000.00	89.5 - 110		34533188.00	34631236.00	34662240.00
47 Ti	51.57 ug/l	0.79	50.00	89.5 - 110		54753.70	55479.22	54626.76
51 V	49.61 ug/l	0.28	50.00	89.5 - 110		129386.16	130060.67	130320.27
52 Cr	49.64 ug/l	0.52	50.00	89.5 - 110		156956.45	158299.11	157375.83
55 Mn	507.2 ug/l	0.77	500.00	89.5 - 110		9369285.00	9442282.00	9552218.00
56 Fe	5317 ug/l	0.50	5000.00	89.5 - 110		45101440.00	46159176.00	45570904.00
59 Co	49.33 ug/l	0.45	50.00	89.5 - 110		691091.88	697212.31	700821.31
60 Ni	50.74 ug/l	0.42	50.00	89.5 - 110		59494.79	59600.79	59854.90
63 Cu	49.38 ug/l	0.92	50.00	89.5 - 110		159693.83	160030.55	158737.63
66 Zn	48.83 ug/l	1.31	50.00	89.5 - 110		98995.63	101258.05	102109.27
75 As	50.53 ug/l	0.10	50.00	89.5 - 110		17212.09	17414.95	17447.31
78 Se	51.32 ug/l	0.20	50.00	89.5 - 110		13594.41	13762.20	13678.81
88 Sr	49.22 ug/l	0.78	50.00	89.5 - 110		1203622.40	1224118.60	1203734.50
95 Mo	50.61 ug/l	1.58	50.00	89.5 - 110		196799.50	195370.00	195901.58
107 Ag	49.2 ug/l	1.28	50.00	89.5 - 110		532490.25	532190.88	533385.38
111 Cd	50.36 ug/l	1.04	50.00	89.5 - 110		117717.52	116436.08	119265.06
118 Sn	50.31 ug/l	0.75	50.00	89.5 - 110		367659.22	370901.28	372814.44
121 Sb	49.84 ug/l	1.06	50.00	89.5 - 110		438352.03	438381.66	440948.47
137 Ba	49.87 ug/l	0.31	50.00	89.5 - 110		192659.97	193670.53	196759.58
202 Hg	2.518 ug/l	0.87	2.50	89.5 - 110		7969.34	8018.37	7978.02
205 Tl	9.875 ug/l	1.04	10.00	89.5 - 110		261035.31	262640.53	260263.64
208 Pb	49.31 ug/l	0.89	50.00	89.5 - 110		1769123.80	1785478.80	1777554.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	417370.75	0.88	442436.88	94.3	60 - 125		418890.81	413169.66	420051.81
45 Sc	443392.31	0.87	456299.72	97.2	60 - 125		439015.25	446278.03	444883.63
45 Sc	722872.38	0.23	765061.25	94.5	60 - 125		720924.13	723789.13	723903.81
74 Ge	153450.89	0.41	153441.28	100.0	60 - 125		152791.72	154054.31	153506.66
74 Ge	45153.06	0.65	47804.94	94.5	60 - 125		44821.51	45262.64	45375.04
74 Ge	217499.94	0.33	224564.78	96.9	60 - 125		216666.89	218013.22	217819.67
89 Y	1265595.30	0.51	1302847.50	97.1	60 - 125		1268444.00	1270108.40	1258233.40
115 In	1307454.00	1.38	1366177.60	95.7	60 - 125		1291657.80	1303613.80	1327090.40
159 Tb	1953358.80	0.58	2052817.90	95.2	60 - 125		1952904.40	1942278.80	1964892.90
209 Bi	1300029.60	0.59	1405468.50	92.5	60 - 125		1292325.10	1300120.40	1307643.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\092_CCB.D\092_CCB.D#
 Date Acquired: Aug 24 2014 09:21 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0006568	0.0006568	ug/l	325.67	#VALUE!		0.00	6.67	0.00
11 B #3	1.613	1.613	ug/l	2.55	#VALUE!		4527.31	4630.67	4630.67
23 Na #1	-5.091	-5.091	ug/l	4.02	#VALUE!		75628.45	75025.76	74982.32
24 Mg #1	0.02881	0.02881	ug/l	155.15	#VALUE!		1216.74	1106.73	1016.72
27 Al #1	-0.1565	-0.1565	ug/l	13.32	#VALUE!		1210.07	1106.73	1140.07
39 K #2	-6.148	-6.148	ug/l	10.69	#VALUE!		10519.89	10369.75	10876.78
40 Ca #1	0.07103	0.07103	ug/l	112.59	#VALUE!		25067.12	25070.43	26008.32
47 Ti #3	-0.05264	-0.05264	ug/l	82.35	#VALUE!		100.02	20.00	26.67
51 V #2	0.001613	0.001613	ug/l	241.60	#VALUE!		220.00	226.67	244.45
52 Cr #2	-0.01916	-0.01916	ug/l	15.34	#VALUE!		263.34	266.67	253.34
55 Mn #3	0.005759	0.005759	ug/l	12.88	#VALUE!		1530.11	1530.10	1510.10
56 Fe #1	0.5427	0.5427	ug/l	3.41	#VALUE!		8949.05	8728.92	8772.36
59 Co #3	-0.0002487	-0.0002487	ug/l	258.79	#VALUE!		60.00	73.34	56.67
60 Ni #2	-0.01193	-0.01193	ug/l	21.65	#VALUE!		35.56	37.78	32.22
63 Cu #2	-0.06993	-0.06993	ug/l	5.46	#VALUE!		206.67	208.89	190.00
66 Zn #3	-0.1159	-0.1159	ug/l	20.92	#VALUE!		433.35	360.02	340.01
75 As #2	-0.003697	-0.003697	ug/l	224.32	#VALUE!		16.00	10.67	13.00
78 Se #1	-0.01454	-0.01454	ug/l	53.42	#VALUE!		17.33	18.33	14.33
88 Sr #3	0.000171	0.000171	ug/l	548.71	#VALUE!		153.34	180.01	136.67
95 Mo #3	0.03097	0.03097	ug/l	27.12	#VALUE!		270.01	216.67	216.67
107 Ag #3	-0.001652	-0.001652	ug/l	77.97	#VALUE!		96.67	93.34	120.00
111 Cd #3	0.0005643	0.0005643	ug/l	287.79	#VALUE!		3.27	9.95	9.95
118 Sn #3	0.1181	0.1181	ug/l	2.92	#VALUE!		1570.12	1546.78	1600.12
121 Sb #3	0.02204	0.02204	ug/l	14.13	#VALUE!		263.35	213.34	226.68
137 Ba #3	0.00107	0.00107	ug/l	90.08	#VALUE!		40.00	46.67	40.00
202 Hg #3	0.003473	0.003473	ug/l	134.24	#VALUE!		145.67	136.00	117.00
205 Tl #3	-0.00362	-0.00362	ug/l	44.70	#VALUE!		146.67	76.67	70.00
208 Pb #3	-0.02146	-0.02146	ug/l	3.69	#VALUE!		596.69	653.36	630.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	418436.84	0.80	442436.88	94.6	60 - 125		417095.78	415970.22	422244.47
45 Sc #1	432496.38	0.43	456299.72	94.8	60 - 125		430378.63	433849.44	433261.09
45 Sc #3	711314.13	1.97	765061.25	93.0	60 - 125		700678.75	706041.56	727222.19
74 Ge #1	151096.41	0.41	153441.28	98.5	60 - 125		150727.28	151820.34	150741.56
74 Ge #2	44583.18	1.25	47804.94	93.3	60 - 125		43976.20	44698.96	45074.37
74 Ge #3	214296.23	0.19	224564.78	95.4	60 - 125		214459.98	213825.20	214603.50
89 Y #3	1243293.90	1.07	1302847.50	95.4	60 - 125		1231254.30	1241071.00	1257556.10
115 In #3	1312965.40	0.76	1366177.60	96.1	60 - 125		1301850.60	1315960.30	1321085.30
159 Tb #3	1936542.00	0.15	2052817.90	94.3	60 - 125		1937232.30	1938984.10	1933409.50
209 Bi #3	1310627.80	0.57	1405468.50	93.3	60 - 125		1302079.60	1314349.00	1315454.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\093SMPL.D\093SMPL.D#
 Date Acquired: Aug 24 2014 09:28 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345441_1-a
 Misc Info: 3005 1/5
 Vial Number: 2311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002444	0.002444	ug/l	154.91	100.00		0.00	13.33	3.33
11 B # 3	1.322	1.322	ug/l	2.33	1800.00		4250.58	4187.20	4313.92
23 Na # 1	-4.903	-4.903	ug/l	5.00	81000.00		77113.88	77974.48	78415.64
24 Mg # 1	1.044	1.044	ug/l	6.56	81000.00		3597.11	3707.12	3413.73
27 Al # 1	1.259	1.259	ug/l	1.97	81000.00		5177.51	5137.49	5304.28
39 K # 2	-4.3	-4.3	ug/l	13.67	81000.00		11016.85	11597.22	11240.26
40 Ca # 1	4.734	4.734	ug/l	1.17	81000.00		56809.16	56772.50	56588.40
47 Ti # 3	-0.02268	-0.02268	ug/l	97.27	1620.00		60.00	76.67	106.67
51 V # 2	0.04655	0.04655	ug/l	10.74	1800.00		338.90	341.12	366.67
52 Cr # 2	-0.002695	-0.002695	ug/l	205.83	1800.00		328.89	312.23	303.34
55 Mn # 3	0.2028	0.2028	ug/l	3.85	1800.00		5317.57	5180.88	5077.47
56 Fe # 1	0.4769	0.4769	ug/l	3.25	81000.00		8515.50	8562.21	8375.43
59 Co # 3	-0.00148	-0.00148	ug/l	17.04	1800.00		50.00	46.67	43.33
60 Ni # 2	0.1341	0.1341	ug/l	12.36	1800.00		182.22	211.11	225.56
63 Cu # 2	-0.04878	-0.04878	ug/l	10.57	1800.00		274.45	284.45	254.45
66 Zn # 3	0.132	0.132	ug/l	20.98	1800.00		936.72	820.04	906.72
75 As # 2	0.01092	0.01092	ug/l	42.83	100.00		17.33	17.33	20.33
78 Se # 1	-0.02468	-0.02468	ug/l	38.91	100.00		13.33	12.00	17.00
88 Sr # 3	0.006219	0.006219	ug/l	30.09	1800.00		343.35	256.68	316.68
95 Mo # 3	0.0004627	0.0004627	ug/l	815.00	1800.00		126.67	126.67	100.00
107 Ag # 3	-0.002191	-0.002191	ug/l	76.13	100.00		100.01	80.00	116.67
111 Cd # 3	0.0005557	0.0005557	ug/l	637.39	100.00		-0.03	6.64	16.65
118 Sn # 3	0.08997	0.08997	ug/l	12.06	1800.00		1336.75	1350.10	1466.78
121 Sb # 3	0.01076	0.01076	ug/l	10.65	100.00		126.67	140.01	143.34
137 Ba # 3	0.009615	0.009615	ug/l	45.56	1800.00		60.00	93.34	76.67
202 Hg # 3	-0.008124	-0.008124	ug/l	27.51	5.00		94.67	105.67	92.33
205 Tl # 3	-0.005116	-0.005116	ug/l	5.35	20.00		56.67	53.33	66.67
208 Pb # 3	-0.02187	-0.02187	ug/l	3.25	1800.00		590.02	623.36	633.36
232 Th # 3	0.04386	0.04386	ug/l	7.17	#VALUE!		2103.54	1996.85	1920.18
238 U # 3	0.001205	0.001205	ug/l	14.08	#VALUE!		76.67	86.67	73.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	425272.06	0.71	442436.88	96.1	60 - 125		423034.88	424051.34	428729.94
45 Sc # 1	443894.78	0.53	456299.72	97.3	60 - 125		445221.59	441172.59	445290.22
45 Sc # 3	715057.75	0.50	765061.25	93.5	60 - 125		712113.81	713974.06	719085.31
74 Ge # 1	152173.00	0.45	153441.28	99.2	60 - 125		151531.56	152098.16	152889.30
74 Ge # 2	44911.42	1.44	47804.94	93.9	60 - 125		44164.40	45259.31	45310.54
74 Ge # 3	216405.75	0.79	224564.78	96.4	60 - 125		216240.08	214787.08	218190.11
89 Y # 3	1255006.00	0.51	1302847.50	96.3	60 - 125		1252880.80	1262253.40	1249884.00
115 In # 3	1332583.50	1.15	1366177.60	97.5	60 - 125		1350310.40	1323012.10	1324428.30
159 Tb # 3	1948400.00	0.52	2052817.90	94.9	60 - 125		1957254.80	1950500.00	1937444.80
209 Bi # 3	1320760.00	1.58	1405468.50	94.0	60 - 125		1297499.80	1326860.90	1337919.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\0948MPL.D\0948MPL.D#
 Date Acquired: Aug 24 2014 09:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345441_2-a
 Misc Info: 3005 1/5
 Vial Number: 2312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.39	10.39	ug/l	1.33	100.00		18999.70	19506.71	19059.58
11 B # 3	42.44	42.44	ug/l	1.55	1800.00		63710.76	65095.75	62985.49
23 Na # 1	1110	1110	ug/l	0.65	81000.00		3868667.50	3822486.30	3918518.30
24 Mg # 1	1127	1127	ug/l	0.26	81000.00		2694747.50	2679545.00	2699290.50
27 Al # 1	1104	1104	ug/l	0.41	81000.00		3144339.80	3103892.00	3137879.30
39 K # 2	1049	1049	ug/l	0.70	81000.00		357478.00	362472.84	361892.19
40 Ca # 1	1143	1143	ug/l	0.42	81000.00		7551701.50	7466176.50	7530523.00
47 Ti # 3	20.95	20.95	ug/l	0.86	1620.00		22587.41	22026.69	22440.66
51 V # 2	20.97	20.97	ug/l	0.22	1800.00		54025.34	54130.03	54963.60
52 Cr # 2	21.31	21.31	ug/l	1.01	1800.00		66226.38	67612.40	67107.27
55 Mn # 3	111.5	111.5	ug/l	1.09	1800.00		2034084.10	2068330.00	2047399.50
56 Fe # 1	1139	1139	ug/l	0.08	81000.00		9752203.00	9699317.00	9804031.00
59 Co # 3	10.91	10.91	ug/l	1.00	1800.00		151177.58	152990.13	151426.42
60 Ni # 2	21.97	21.97	ug/l	0.27	1800.00		25348.48	25546.49	25713.43
63 Cu # 2	21.09	21.09	ug/l	0.78	1800.00		67207.99	67723.31	67559.32
66 Zn # 3	21.33	21.33	ug/l	0.77	1800.00		43385.23	43959.74	43879.54
75 As # 2	21.42	21.42	ug/l	0.38	100.00		7192.76	7290.80	7342.82
78 Se # 1	21.8	21.8	ug/l	0.56	100.00		5855.95	5721.91	5816.27
88 Sr # 3	20.13	20.13	ug/l	0.26	1800.00		489453.06	494450.72	496634.22
95 Mo # 3	20.79	20.79	ug/l	1.47	1800.00		82075.96	80632.56	82209.74
107 Ag # 3	10.45	10.45	ug/l	1.38	100.00		115896.92	113505.16	114652.02
111 Cd # 3	10.71	10.71	ug/l	3.60	100.00		26125.35	24489.98	25497.86
118 Sn # 3	42.93	42.93	ug/l	0.32	1800.00		319426.66	320882.34	320532.72
121 Sb # 3	10.6	10.6	ug/l	0.63	100.00		94028.07	94912.82	95090.47
137 Ba # 3	20.66	20.66	ug/l	1.20	1800.00		80433.81	81913.81	82322.33
202 Hg # 3	0.9902	0.9902	ug/l	0.81	5.00		3244.01	3186.33	3208.00
205 Tl # 3	8.385	8.385	ug/l	0.30	20.00		221474.89	221545.94	221886.66
208 Pb # 3	10.68	10.68	ug/l	0.62	1800.00		385094.72	384135.72	387592.69
232 Th # 3	10.76	10.76	ug/l	0.90	#VALUE!		423937.75	425447.25	428954.09
238 U # 3	10.58	10.58	ug/l	1.67	#VALUE!		430131.72	436276.88	441780.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	426826.16	0.21	442436.88	96.5	60 - 125		427114.38	427526.28	425837.81
45 Sc # 1	442268.66	0.61	456299.72	96.9	60 - 125		442429.16	439476.16	444900.66
45 Sc # 3	721626.63	0.79	765061.25	94.3	60 - 125		728165.81	717726.44	718987.56
74 Ge # 1	152796.86	0.68	153441.28	99.6	60 - 125		153440.22	151604.30	153346.03
74 Ge # 2	44590.97	0.91	47804.94	93.3	60 - 125		44236.78	44505.19	45030.95
74 Ge # 3	214392.70	0.51	224564.78	95.5	60 - 125		213919.19	213626.95	215631.97
89 Y # 3	1261339.00	0.50	1302847.50	96.8	60 - 125		1254765.60	1261775.90	1267475.50
115 In # 3	1324130.50	0.40	1366177.60	96.9	60 - 125		1321702.10	1330138.80	1320550.60
159 Tb # 3	1950853.90	0.21	2052817.90	95.0	60 - 125		1955147.30	1950452.00	1946962.90
209 Bi # 3	1324009.40	0.48	1405468.50	94.2	60 - 125		1330681.30	1317982.60	1323364.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\095SMPL.D\095SMPL.D#
 Date Acquired: Aug 24 2014 09:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-1-b
 Misc Info: 3005 1/5
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	2.995E-005	2.995E-005	ug/l	3515.90	100.00		0.00	3.33	0.00
11 B #3	39.88	39.88	ug/l	2.12	1800.00		59617.97	60845.32	60056.36
23 Na #1	2955	2955	ug/l	0.21	81000.00		10170845.00	10229496.00	10210697.00
24 Mg #1	4337	4337	ug/l	0.23	81000.00		10392932.00	10417402.00	10415999.00
27 Al #1	1.707	1.707	ug/l	4.31	81000.00		6607.99	6631.32	6241.17
39 K #2	5421	5421	ug/l	1.06	81000.00		1786317.50	1786993.80	1812698.30
40 Ca #1	41430	41430	ug/l	0.44	81000.00		272530460.00	272859230.00	273989920.00
47 Ti #3	0.2856	0.2856	ug/l	11.28	1620.00		446.69	416.68	390.02
51 V #2	0.2161	0.2161	ug/l	4.60	1800.00		745.58	796.69	790.02
52 Cr #2	0.047	0.047	ug/l	15.11	1800.00		462.23	444.45	485.57
55 Mn #3	514.5	514.5	ug/l	0.47	1800.00		9390045.00	9611505.00	9678852.00
56 Fe #1	11520	11520	ug/l	0.52	81000.00		98997920.00	98937784.00	99512088.00
59 Co #3	0.2944	0.2944	ug/l	2.22	1800.00		4160.58	4300.60	4163.93
60 Ni #2	0.7289	0.7289	ug/l	3.24	1800.00		914.48	870.03	875.58
63 Cu #2	0.02104	0.02104	ug/l	25.05	1800.00		504.46	477.79	478.90
66 Zn #3	0.4671	0.4671	ug/l	3.54	1800.00		1523.44	1570.11	1630.12
75 As #2	0.4311	0.4311	ug/l	2.75	100.00		162.67	160.00	155.00
78 Se #1	0.0843	0.0843	ug/l	9.58	100.00		43.00	44.00	40.00
88 Sr #3	139.1	139.1	ug/l	0.49	1800.00		3392098.30	3458537.50	3475416.50
95 Mo #3	0.2054	0.2054	ug/l	15.61	1800.00		926.72	1006.73	780.04
107 Ag #3	0.0004804	0.0004804	ug/l	221.27	100.00		113.34	123.34	140.01
111 Cd #3	0.001021	0.001021	ug/l	84.41	100.00		9.80	9.78	6.50
118 Sn #3	0.1366	0.1366	ug/l	4.38	1800.00		1713.47	1690.14	1680.13
121 Sb #3	0.1008	0.1008	ug/l	6.86	100.00		916.72	980.06	873.38
137 Ba #3	40.77	40.77	ug/l	1.19	1800.00		157559.52	158434.48	158829.14
202 Hg #3	-0.015	-0.015	ug/l	7.89	5.00		79.00	77.33	72.00
205 Tl #3	0.005717	0.005717	ug/l	58.18	20.00		363.35	250.01	420.02
208 Pb #3	-0.004526	-0.004526	ug/l	70.08	1800.00		1190.06	1160.06	1366.74
232 Th #3	0.1588	0.1588	ug/l	8.34	#VALUE!		6871.74	6118.09	5957.98
238 U #3	0.1011	0.1011	ug/l	0.58	#VALUE!		4010.65	4037.34	4077.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	426649.72	1.51	442436.88	96.4	60 - 125		423545.34	422326.34	434077.44
45 Sc #1	444805.66	0.27	456299.72	97.5	60 - 125		444137.97	446181.31	444097.69
45 Sc #3	737668.00	1.64	765061.25	96.4	60 - 125		727308.94	734760.19	750934.88
74 Ge #1	150282.34	0.10	153441.28	97.9	60 - 125		150114.47	150317.11	150415.41
74 Ge #2	44204.09	0.43	47804.94	92.5	60 - 125		44058.61	44419.38	44134.29
74 Ge #3	216775.48	1.26	224564.78	96.5	60 - 125		213960.55	216945.22	219420.64
89 Y #3	1273813.60	1.05	1302847.50	97.8	60 - 125		1260746.60	1273142.80	1287551.40
115 In #3	1302190.10	1.59	1366177.60	95.3	60 - 125		1281640.00	1301891.50	1323039.00
159 Tb #3	1948689.40	0.51	2052817.90	94.9	60 - 125		1940142.00	1959699.50	1946226.30
209 Bi #3	1274822.30	0.72	1405468.50	90.7	60 - 125		1272930.30	1266768.00	1284768.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\096SMPL.D\096SMPL.D#
 Date Acquired: Aug 24 2014 09:50 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-5-b
 Misc Info: 3005 1/5
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babha.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.06368	0.06368	ug/l	15.21	100.00		130.00	100.00	103.34
11 B # 3	3.565	3.565	ug/l	2.66	1800.00		6884.71	7204.82	7048.13
23 Na # 1	986.7	986.7	ug/l	0.48	81000.00		3595244.50	3577337.00	3592345.80
24 Mg # 1	118.1	118.1	ug/l	0.74	81000.00		294066.72	292906.72	295607.56
27 Al # 1	295.6	295.6	ug/l	3.66	81000.00		858446.44	852389.25	905807.88
39 K # 2	225.1	225.1	ug/l	0.53	81000.00		86052.54	84797.16	86125.80
40 Ca # 1	314.7	314.7	ug/l	0.71	81000.00		2161065.80	2174106.50	2180230.80
47 Ti # 3	6.99	6.99	ug/l	6.79	1620.00		7636.77	6848.65	7820.98
51 V # 2	1.046	1.046	ug/l	3.23	1800.00		2849.13	2953.60	2811.35
52 Cr # 2	0.6036	0.6036	ug/l	2.19	1800.00		2207.93	2112.36	2181.26
55 Mn # 3	1.154	1.154	ug/l	1.74	1800.00		22137.02	21683.11	22330.47
56 Fe # 1	192.6	192.6	ug/l	1.60	81000.00		1706292.00	1704189.50	1743844.30
59 Co # 3	0.1391	0.1391	ug/l	1.75	1800.00		1920.15	1993.50	1940.16
60 Ni # 2	0.3604	0.3604	ug/l	2.82	1800.00		450.01	452.23	472.23
63 Cu # 2	0.1777	0.1777	ug/l	7.70	1800.00		1017.82	962.26	932.26
66 Zn # 3	1.913	1.913	ug/l	3.53	1800.00		4203.95	4377.32	4517.34
75 As # 2	0.1524	0.1524	ug/l	9.72	100.00		60.33	69.67	64.67
78 Se # 1	-0.009164	-0.009164	ug/l	15.73	100.00		18.00	18.33	18.67
88 Sr # 3	1.952	1.952	ug/l	0.15	1800.00		46260.36	46169.95	46006.17
95 Mo # 3	0.06964	0.06964	ug/l	20.49	1800.00		423.35	316.68	390.02
107 Ag # 3	-0.003116	-0.003116	ug/l	110.33	100.00		83.34	123.34	50.00
111 Cd # 3	0.006913	0.006913	ug/l	96.83	100.00		13.24	39.93	13.25
118 Sn # 3	0.08954	0.08954	ug/l	12.90	1800.00		1426.77	1320.09	1250.09
121 Sb # 3	0.008753	0.008753	ug/l	39.56	100.00		130.00	80.00	133.34
137 Ba # 3	4.305	4.305	ug/l	1.64	1800.00		16304.97	16551.79	16705.28
202 Hg # 3	-0.01837	-0.01837	ug/l	8.21	5.00		65.00	59.00	68.33
205 Tl # 3	0.00688	0.00688	ug/l	7.79	20.00		353.35	380.02	366.68
208 Pb # 3	0.1853	0.1853	ug/l	0.90	1800.00		7837.72	7921.28	7854.54
232 Th # 3	0.08961	0.08961	ug/l	3.67	#VALUE!		3807.26	3603.89	3860.60
238 U # 3	0.04815	0.04815	ug/l	2.68	#VALUE!		1956.86	2033.54	1946.85

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	399860.31	0.77	442436.88	90.4	60 - 125		398998.78	403275.19	397306.94
45 Sc # 1	459932.84	0.29	456299.72	100.8	60 - 125		460705.25	460723.66	458369.56
45 Sc # 3	712679.00	0.68	765061.25	93.2	60 - 125		708689.69	711308.38	718038.94
74 Ge # 1	153279.81	0.51	153441.28	99.9	60 - 125		153200.58	154092.50	152546.39
74 Ge # 2	43739.68	0.42	47804.94	91.5	60 - 125		43850.33	43526.20	43842.50
74 Ge # 3	208916.55	0.57	224564.78	93.0	60 - 125		207564.42	209358.45	209826.77
89 Y # 3	1213007.60	0.32	1302847.50	93.1	60 - 125		1214685.30	1215758.40	1208579.10
115 In # 3	1284700.30	0.43	1366177.60	94.0	60 - 125		1289648.80	1285755.40	1278696.50
159 Tb # 3	1903658.30	0.21	2052817.90	92.7	60 - 125		1904099.50	1899378.30	1907496.90
209 Bi # 3	1300991.80	0.30	1405468.50	92.6	60 - 125		1305009.00	1297267.10	1300699.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\097SMPL.D\097SMPL.D#
 Date Acquired: Aug 24 2014 09:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-5-bSD
 Misc Info: 3005 1/25
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.06635	0.01327	ug/l	54.01	100.00		33.33	10.00	26.67
11 B # 3	7.155	1.431	ug/l	4.88	1800.00		4137.22	3993.85	3997.18
23 Na # 1	1072	214.4	ug/l	0.61	81000.00		773815.06	783063.44	775173.75
24 Mg # 1	127	25.4	ug/l	0.15	81000.00		58234.77	58191.46	58235.17
27 Al # 1	444.05	88.81	ug/l	2.07	81000.00		234133.69	244400.78	238327.28
39 K # 2	214.3	42.86	ug/l	4.03	81000.00		25093.86	25984.92	26245.39
40 Ca # 1	344.55	68.91	ug/l	0.49	81000.00		448775.94	449803.53	452699.53
47 Ti # 3	11.285	2.257	ug/l	5.07	1620.00		2220.42	2467.28	2337.23
51 V # 2	1.1945	0.2389	ug/l	4.30	1800.00		827.80	818.91	781.13
52 Cr # 2	0.5715	0.1143	ug/l	13.18	1800.00		607.79	701.13	645.57
55 Mn # 3	1.3035	0.2607	ug/l	6.11	1800.00		6174.53	5957.78	5717.70
56 Fe # 1	241.65	48.33	ug/l	0.42	81000.00		392776.56	394373.38	396168.84
59 Co # 3	0.1356	0.02712	ug/l	14.03	1800.00		456.69	450.02	370.01
60 Ni # 2	0.8115	0.1623	ug/l	2.28	1800.00		223.34	227.78	232.23
63 Cu # 2	-0.016355	-0.003271	ug/l	147.66	1800.00		412.23	395.56	384.45
66 Zn # 3	1.662	0.3324	ug/l	4.52	1800.00		1250.08	1213.41	1230.08
75 As # 2	0.1311	0.02622	ug/l	17.86	100.00		22.33	21.00	24.00
78 Se # 1	-0.17715	-0.03543	ug/l	11.85	100.00		10.00	10.33	12.00
88 Sr # 3	1.987	0.3974	ug/l	0.91	1800.00		9446.08	9326.03	9399.39
95 Mo # 3	0.006155	0.001231	ug/l	462.88	1800.00		100.00	140.01	103.34
107 Ag # 3	-0.027555	-0.005511	ug/l	13.35	100.00		66.67	53.34	56.67
111 Cd # 3	0.013515	0.002703	ug/l	127.16	100.00		16.65	3.30	16.64
118 Sn # 3	0.3324	0.06648	ug/l	24.07	1800.00		1000.06	1210.08	1226.75
121 Sb # 3	0.024035	0.004807	ug/l	30.06	100.00		73.34	70.00	93.34
137 Ba # 3	4.576	0.9152	ug/l	6.00	1800.00		3400.44	3313.74	3720.54
202 Hg # 3	-0.07195	-0.01439	ug/l	9.27	5.00		78.00	71.00	77.67
205 Tl # 3	-0.006945	-0.001389	ug/l	67.00	20.00		176.67	150.01	130.01
208 Pb # 3	0.13435	0.02687	ug/l	12.93	1800.00		2363.50	2356.87	2156.81
232 Th # 3	0.13955	0.02791	ug/l	2.14	#VALUE!		1386.77	1356.78	1343.43
238 U # 3	0.045375	0.009075	ug/l	6.25	#VALUE!		373.35	400.02	420.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	390046.50	0.43	442436.88	88.2	60 - 125		389017.34	391991.91	389130.25
45 Sc # 1	417487.97	0.10	456299.72	91.5	60 - 125		417130.53	417958.97	417374.31
45 Sc # 3	675335.44	0.44	765061.25	88.3	60 - 125		671959.69	677687.63	676359.19
74 Ge # 1	145537.78	0.25	153441.28	94.8	60 - 125		145727.03	145117.86	145768.47
74 Ge # 2	42805.25	0.27	47804.94	89.5	60 - 125		42683.07	42914.78	42817.89
74 Ge # 3	205509.52	0.95	224564.78	91.5	60 - 125		203269.31	206486.80	206772.47
89 Y # 3	1197398.60	0.66	1302847.50	91.9	60 - 125		1192246.10	1193412.00	1206537.90
115 In # 3	1261718.30	1.21	1366177.60	92.4	60 - 125		1244200.40	1271578.40	1269375.90
159 Tb # 3	1887310.60	0.24	2052817.90	91.9	60 - 125		1882185.40	1889259.10	1890487.00
209 Bi # 3	1305265.90	0.10	1405468.50	92.9	60 - 125		1304377.80	1304605.50	1306814.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\098SMPL.D\098SMPL.D#
 Date Acquired: Aug 24 2014 10:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-5-bPDS
 Misc Info: 3005 1/5
 Vial Number: 2404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	20.13	20.13	ug/l	0.57	100.00		34671.07	35345.72	34771.26
11 B # 3	43.29	43.29	ug/l	0.18	1800.00		61118.93	61868.15	60741.40
23 Na # 1	2982	2982	ug/l	1.12	81000.00		10121461.00	10144877.00	10284300.00
24 Mg # 1	2121	2121	ug/l	0.72	81000.00		5003554.00	5035855.50	5065896.00
27 Al # 1	495.1	495.1	ug/l	1.79	81000.00		1378500.60	1387667.90	1422794.30
39 K # 2	2195	2195	ug/l	0.50	81000.00		709879.44	717882.19	727693.88
40 Ca # 1	2319	2319	ug/l	0.70	81000.00		15018093.00	15171231.00	15242331.00
47 Ti # 3	27.54	27.54	ug/l	0.33	1620.00		28926.84	29344.78	29360.70
51 V # 2	20.73	20.73	ug/l	0.68	1800.00		51618.46	51923.82	52892.01
52 Cr # 2	20.48	20.48	ug/l	0.63	1800.00		61583.97	62396.81	63337.65
55 Mn # 3	210.1	210.1	ug/l	0.26	1800.00		3709622.80	3752833.30	3752907.50
56 Fe # 1	2267	2267	ug/l	0.36	81000.00		19106154.00	19490680.00	19294130.00
59 Co # 3	20.43	20.43	ug/l	0.40	1800.00		273464.78	276497.19	275811.63
60 Ni # 2	20.93	20.93	ug/l	1.15	1800.00		23660.71	23401.52	23716.37
63 Cu # 2	20.33	20.33	ug/l	0.88	1800.00		63152.88	62996.62	63206.26
66 Zn # 3	22.21	22.21	ug/l	0.65	1800.00		43642.34	44454.29	44143.68
75 As # 2	20.1	20.1	ug/l	0.56	100.00		6533.18	6680.90	6658.22
78 Se # 1	20.42	20.42	ug/l	1.87	100.00		5119.73	5201.42	5301.78
88 Sr # 3	21.1	21.1	ug/l	0.65	1800.00		499587.22	506844.78	508324.72
95 Mo # 3	19.83	19.83	ug/l	0.27	1800.00		74883.98	75319.59	76066.52
107 Ag # 3	19.03	19.03	ug/l	0.99	100.00		202372.28	201825.55	202369.33
111 Cd # 3	20.1	20.1	ug/l	1.42	100.00		45496.53	46713.38	46188.37
118 Sn # 3	20.23	20.23	ug/l	0.37	1800.00		144879.09	146009.22	148835.94
121 Sb # 3	19.91	19.91	ug/l	0.95	100.00		171908.44	172349.09	172298.98
137 Ba # 3	24.26	24.26	ug/l	1.15	1800.00		92953.16	92748.76	92678.38
202 Hg # 3	0.9995	0.9995	ug/l	1.64	5.00		3118.31	3184.67	3203.33
205 Tl # 3	4.029	4.029	ug/l	0.27	20.00		104546.78	103160.27	104897.81
208 Pb # 3	20.51	20.51	ug/l	1.40	1800.00		723698.13	724943.50	718682.06
232 Th # 3	20.82	20.82	ug/l	0.70	#VALUE!		797069.56	798623.75	801277.69
238 U # 3	19.82	19.82	ug/l	0.69	#VALUE!		786709.19	788341.88	800621.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	401137.00	0.78	442436.88	90.7	60 - 125		400800.97	404427.84	398182.19
45 Sc # 1	439963.31	0.66	456299.72	96.4	60 - 125		437387.47	443131.13	439371.38
45 Sc # 3	718205.69	0.66	765061.25	93.9	60 - 125		713175.06	718909.06	722532.81
74 Ge # 1	146470.92	0.12	153441.28	95.5	60 - 125		146664.63	146405.20	146342.88
74 Ge # 2	43252.27	0.85	47804.94	90.5	60 - 125		42844.66	43349.16	43562.97
74 Ge # 3	207563.14	0.71	224564.78	92.4	60 - 125		205973.64	207810.39	208905.38
89 Y # 3	1231435.90	1.33	1302847.50	94.5	60 - 125		1213332.10	1245339.00	1235636.40
115 In # 3	1282857.50	1.03	1366177.60	93.9	60 - 125		1272555.00	1278316.10	1297701.40
159 Tb # 3	1906943.30	0.96	2052817.90	92.9	60 - 125		1908024.50	1888100.80	1924704.50
209 Bi # 3	1283612.80	0.92	1405468.50	91.3	60 - 125		1270252.10	1288163.10	1292423.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\099SMPL.D\099SMPL.D#
 Date Acquired: Aug 24 2014 10:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-5-c ms
 Misc Info: 3005 1/5
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	10.38	10.38	ug/l	0.87	100.00		18752.62	18582.49	18599.18
11 B #3	44	44	ug/l	2.05	1800.00		63580.06	65978.47	63637.21
23 Na #1	2018	2018	ug/l	0.66	81000.00		6871600.00	6968933.00	6999629.00
24 Mg #1	1163	1163	ug/l	1.55	81000.00		2763176.30	2752238.80	2793235.00
27 Al #1	1346	1346	ug/l	1.45	81000.00		3802277.80	3806906.30	3813122.00
39 K #2	1232	1232	ug/l	0.96	81000.00		405427.03	415425.09	415628.13
40 Ca #1	1377	1377	ug/l	1.06	81000.00		8955066.00	9009288.00	9131661.00
47 Ti #3	27.89	27.89	ug/l	1.71	1620.00		29338.13	30784.97	29962.65
51 V #2	21.03	21.03	ug/l	0.61	1800.00		52925.45	53465.84	53541.57
52 Cr #2	21.09	21.09	ug/l	0.42	1800.00		64171.54	65004.35	65361.15
55 Mn #3	107.5	107.5	ug/l	0.37	1800.00		1940359.50	1971286.40	1987627.00
56 Fe #1	1271	1271	ug/l	1.24	81000.00		10815598.00	10904365.00	10854697.00
59 Co #3	10.66	10.66	ug/l	0.52	1800.00		146400.44	148473.58	147937.97
60 Ni #2	21.74	21.74	ug/l	0.56	1800.00		24342.72	24769.93	25004.69
63 Cu #2	20.66	20.66	ug/l	0.32	1800.00		64065.84	64768.25	65240.97
66 Zn #3	22.34	22.34	ug/l	0.40	1800.00		45249.84	45664.01	45687.29
75 As #2	20.38	20.38	ug/l	0.46	100.00		6693.56	6790.27	6827.62
78 Se #1	20.95	20.95	ug/l	0.40	100.00		5392.47	5470.50	5421.15
88 Sr #3	21.32	21.32	ug/l	0.55	1800.00		508444.41	513110.41	518779.78
95 Mo #3	20.34	20.34	ug/l	0.32	1800.00		77197.05	77826.52	77746.35
107 Ag #3	10.36	10.36	ug/l	0.62	100.00		109543.48	110264.92	111525.77
111 Cd #3	10.52	10.52	ug/l	0.71	100.00		24353.82	24153.53	24163.45
118 Sn #3	42.21	42.21	ug/l	0.22	1800.00		305715.47	305875.03	306141.59
121 Sb #3	10.3	10.3	ug/l	1.00	100.00		88643.31	90288.46	89001.75
137 Ba #3	24.38	24.38	ug/l	1.01	1800.00		92195.91	94153.56	94190.30
202 Hg #3	0.962	0.962	ug/l	0.91	5.00		3029.97	3067.97	3036.30
205 Tl #3	8.07	8.07	ug/l	0.58	20.00		206285.02	209184.03	208138.92
208 Pb #3	10.52	10.52	ug/l	0.16	1800.00		366768.53	370864.28	372484.25
232 Th #3	10.52	10.52	ug/l	0.87	#VALUE!		397107.75	404373.78	401155.03
238 U #3	10.31	10.31	ug/l	1.59	#VALUE!		408600.34	410031.75	407521.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	415246.94	0.37	442436.88	93.9	60 - 125		413464.47	416023.53	416252.84
45 Sc #1	441512.78	1.55	456299.72	96.8	60 - 125		433617.69	445446.31	445474.44
45 Sc #3	729145.75	1.36	765061.25	95.3	60 - 125		717865.69	733249.69	736321.94
74 Ge #1	148830.98	0.53	153441.28	97.0	60 - 125		147924.64	149374.78	149193.53
74 Ge #2	43611.19	1.01	47804.94	91.2	60 - 125		43231.05	43508.37	44094.15
74 Ge #3	213217.08	0.86	224564.78	94.9	60 - 125		211282.05	213461.72	214907.48
89 Y #3	1239274.10	0.48	1302847.50	95.1	60 - 125		1234635.50	1237136.10	1246050.90
115 In #3	1286432.00	0.29	1366177.60	94.2	60 - 125		1283148.10	1285660.80	1290487.30
159 Tb #3	1901067.00	0.73	2052817.90	92.6	60 - 125		1886818.30	1901922.30	1914460.40
209 Bi #3	1273961.10	1.56	1405468.50	90.6	60 - 125		1250958.00	1285053.10	1285872.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\100SMPL.D\100SMPL.D#
 Date Acquired: Aug 24 2014 10:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-5-d msd
 Misc Info: 3005 1/5
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.68	10.68	ug/l	2.32	100.00		19153.11	19626.87	19746.93
11 B # 3	46.7	46.7	ug/l	1.46	1800.00		69162.73	68761.41	70139.27
23 Na # 1	2075	2075	ug/l	0.47	81000.00		7200973.00	7261782.50	7280885.00
24 Mg # 1	1191	1191	ug/l	1.06	81000.00		2871296.50	2858385.30	2913952.30
27 Al # 1	1395	1395	ug/l	1.34	81000.00		3972237.50	3977639.50	4067324.00
39 K # 2	1283	1283	ug/l	0.24	81000.00		418580.19	425405.44	434468.81
40 Ca # 1	1400	1400	ug/l	0.64	81000.00		9283775.00	9303747.00	9396042.00
47 Ti # 3	28.13	28.13	ug/l	1.20	1620.00		30646.72	30480.18	31134.31
51 V # 2	21.92	21.92	ug/l	0.55	1800.00		54782.88	54922.38	56107.90
52 Cr # 2	21.87	21.87	ug/l	0.50	1800.00		66185.09	66336.80	67976.01
55 Mn # 3	109.9	109.9	ug/l	0.63	1800.00		2011604.80	2021558.80	2038536.60
56 Fe # 1	1306	1306	ug/l	0.48	81000.00		11358221.00	11289728.00	11338261.00
59 Co # 3	10.85	10.85	ug/l	1.20	1800.00		152848.25	149618.66	151736.59
60 Ni # 2	22.16	22.16	ug/l	1.19	1800.00		24951.30	25000.27	25197.15
63 Cu # 2	21.52	21.52	ug/l	1.52	1800.00		66728.58	67144.46	67053.04
66 Zn # 3	23.13	23.13	ug/l	1.07	1800.00		47104.36	47244.75	48053.38
75 As # 2	21.44	21.44	ug/l	0.27	100.00		6997.01	7058.37	7195.76
78 Se # 1	21.41	21.41	ug/l	0.31	100.00		5575.87	5566.86	5585.20
88 Sr # 3	21.88	21.88	ug/l	1.15	1800.00		526572.19	526698.38	533115.19
95 Mo # 3	21.04	21.04	ug/l	2.84	1800.00		78724.43	80843.30	80702.81
107 Ag # 3	10.77	10.77	ug/l	1.15	100.00		114813.36	114095.96	114903.21
111 Cd # 3	10.79	10.79	ug/l	0.98	100.00		24884.29	24650.12	24840.52
118 Sn # 3	43.69	43.69	ug/l	1.69	1800.00		315132.75	316743.81	315837.56
121 Sb # 3	10.63	10.63	ug/l	1.61	100.00		91635.01	91682.20	92701.16
137 Ba # 3	25.1	25.1	ug/l	1.39	1800.00		96100.59	96007.27	96153.95
202 Hg # 3	0.9751	0.9751	ug/l	0.48	5.00		3096.98	3081.98	3115.64
205 Tl # 3	8.295	8.295	ug/l	0.64	20.00		212932.98	214943.80	215914.55
208 Pb # 3	10.81	10.81	ug/l	1.05	1800.00		383937.78	380092.13	381778.84
232 Th # 3	10.91	10.91	ug/l	0.76	#VALUE!		417889.72	414240.72	417861.66
238 U # 3	10.6	10.6	ug/l	0.37	#VALUE!		420628.36	421828.63	421185.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	422264.59	0.72	442436.88	95.4	60 - 125		425760.81	420717.81	420315.19
45 Sc # 1	448244.91	0.17	456299.72	98.2	60 - 125		447476.50	449034.00	448224.25
45 Sc # 3	740321.00	0.73	765061.25	96.8	60 - 125		745891.00	735095.06	739977.13
74 Ge # 1	149637.66	0.46	153441.28	97.5	60 - 125		149853.11	148860.86	150199.00
74 Ge # 2	43369.56	1.70	47804.94	90.7	60 - 125		42714.28	43227.79	44166.59
74 Ge # 3	214823.53	0.12	224564.78	95.7	60 - 125		214559.77	215062.81	214848.03
89 Y # 3	1243837.30	1.68	1302847.50	95.5	60 - 125		1222428.50	1244852.10	1264231.10
115 In # 3	1283839.10	1.43	1366177.60	94.0	60 - 125		1302662.10	1265889.00	1282966.30
159 Tb # 3	1909411.00	0.91	2052817.90	93.0	60 - 125		1900298.10	1898403.80	1929531.60
209 Bi # 3	1276487.60	0.45	1405468.50	90.8	60 - 125		1270091.90	1278254.50	1281116.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\101SMPL.D\101SMPL.D#
 Date Acquired: Aug 24 2014 10:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-7-b
 Misc Info: 3005 1/5
 Vial Number: 2407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.7263	0.7263	ug/l	4.02	100.00		1406.76	1346.75	1303.41
11 B # 3	13.27	13.27	ug/l	2.19	1800.00		21288.63	21805.98	22213.10
23 Na # 1	35640	35640	ug/l	0.84	81000.00		123319010.00	123186770.00	123502200.00
24 Mg # 1	5099	5099	ug/l	0.46	81000.00		12459991.00	12316495.00	12323165.00
27 Al # 1	4598	4598	ug/l	0.55	81000.00		13254930.00	13249841.00	13203013.00
39 K # 2	3261	3261	ug/l	7.96	81000.00		1127226.80	1163086.40	1154475.50
40 Ca # 1	19570	19570	ug/l	0.54	81000.00		130547340.00	130862690.00	129885130.00
47 Ti # 3	2.429	2.429	ug/l	12.24	1620.00		2884.15	2433.82	3074.28
51 V # 2	0.9382	0.9382	ug/l	11.13	1800.00		2796.90	2815.79	2711.34
52 Cr # 2	0.3551	0.3551	ug/l	13.86	1800.00		1486.74	1556.75	1456.74
55 Mn # 3	35.89	35.89	ug/l	0.87	1800.00		668025.81	671924.19	677783.88
56 Fe # 1	1350	1350	ug/l	0.52	81000.00		11767321.00	11813196.00	11646696.00
59 Co # 3	3.232	3.232	ug/l	0.25	1800.00		45763.73	45887.49	45843.94
60 Ni # 2	4.641	4.641	ug/l	9.13	1800.00		5657.58	5785.39	5642.02
63 Cu # 2	0.6636	0.6636	ug/l	9.56	1800.00		2635.77	2672.44	2670.22
66 Zn # 3	23.21	23.21	ug/l	0.98	1800.00		48086.78	48260.61	48851.95
75 As # 2	0.4538	0.4538	ug/l	12.50	100.00		180.33	178.67	169.67
78 Se # 1	0.09524	0.09524	ug/l	2.04	100.00		46.00	44.33	46.00
88 Sr # 3	108	108	ug/l	1.25	1800.00		2700363.30	2707975.00	2721950.50
95 Mo # 3	0.05878	0.05878	ug/l	10.43	1800.00		363.35	326.68	320.01
107 Ag # 3	0.002894	0.002894	ug/l	21.69	100.00		156.67	143.34	150.01
111 Cd # 3	0.04782	0.04782	ug/l	10.92	100.00		129.93	106.60	113.27
118 Sn # 3	0.12	0.12	ug/l	11.88	1800.00		1486.77	1676.80	1510.11
121 Sb # 3	0.04819	0.04819	ug/l	4.66	100.00		450.02	443.35	480.02
137 Ba # 3	62.43	62.43	ug/l	0.32	1800.00		239091.69	240686.58	240317.34
202 Hg # 3	0.01017	0.01017	ug/l	41.65	5.00		138.67	167.67	157.34
205 Tl # 3	0.1792	0.1792	ug/l	1.56	20.00		4837.56	5050.97	4864.23
208 Pb # 3	0.3038	0.3038	ug/l	11.69	1800.00		11378.66	13911.81	11648.72
232 Th # 3	0.2256	0.2256	ug/l	6.50	#VALUE!		8996.24	8812.75	8095.69
238 U # 3	0.04034	0.04034	ug/l	1.91	#VALUE!		1596.81	1593.47	1573.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	430125.06	0.19	442436.88	97.2	60 - 125		429436.81	429936.25	431002.13
45 Sc # 1	449543.69	0.75	456299.72	98.5	60 - 125		452744.09	449859.09	446027.97
45 Sc # 3	751793.94	1.27	765061.25	98.3	60 - 125		762784.69	747391.00	745206.06
74 Ge # 1	151132.86	1.00	153441.28	98.5	60 - 125		151983.98	149381.31	152033.30
74 Ge # 2	46995.88	8.74	47804.94	98.3	60 - 125		44249.08	45020.90	51717.65
74 Ge # 3	218230.08	0.14	224564.78	97.2	60 - 125		218527.55	218247.09	217915.59
89 Y # 3	1292036.30	1.12	1302847.50	99.2	60 - 125		1283790.00	1308804.60	1283514.00
115 In # 3	1289717.80	0.02	1366177.60	94.4	60 - 125		1289371.00	1289966.00	1289816.40
159 Tb # 3	1947179.10	1.01	2052817.90	94.9	60 - 125		1927350.80	1966520.00	1947666.90
209 Bi # 3	1242521.60	1.39	1405468.50	88.4	60 - 125		1223135.00	1256165.00	1248264.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\102SMPL.D\102SMPL.D#
 Date Acquired: Aug 24 2014 10:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-b-10-b
 Misc Info: 3005 1/5
 Vial Number: 2408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.06317	0.06317	ug/l	7.08	100.00		130.00	116.67	116.67
11 B # 3	3.234	3.234	ug/l	2.05	1800.00		7121.48	7188.18	7431.58
23 Na # 1	1509	1509	ug/l	0.66	81000.00		5383821.50	5365495.50	5445200.00
24 Mg # 1	171.4	171.4	ug/l	0.97	81000.00		419829.34	424474.63	425927.06
27 Al # 1	229.2	229.2	ug/l	0.58	81000.00		669576.38	670253.81	676443.94
39 K # 2	178.3	178.3	ug/l	0.45	81000.00		72452.70	73927.92	74951.88
40 Ca # 1	382.2	382.2	ug/l	1.32	81000.00		2581214.50	2626573.30	2632946.00
47 Ti # 3	5.107	5.107	ug/l	2.00	1620.00		6011.88	6035.10	5795.20
51 V # 2	0.6815	0.6815	ug/l	3.17	1800.00		1946.79	2060.13	2116.81
52 Cr # 2	0.2643	0.2643	ug/l	1.83	1800.00		1178.94	1163.38	1196.72
55 Mn # 3	1.119	1.119	ug/l	0.89	1800.00		22697.67	22804.49	23071.44
56 Fe # 1	175.9	175.9	ug/l	0.49	81000.00		1570518.90	1551999.40	1553540.50
59 Co # 3	0.141	0.141	ug/l	3.80	1800.00		2160.19	2136.85	2026.83
60 Ni # 2	0.7747	0.7747	ug/l	6.70	1800.00		1028.93	948.92	942.25
63 Cu # 2	0.3043	0.3043	ug/l	2.61	1800.00		1436.74	1426.74	1428.96
66 Zn # 3	2.788	2.788	ug/l	0.99	1800.00		6387.94	6594.68	6511.35
75 As # 2	0.1818	0.1818	ug/l	6.04	100.00		74.00	82.33	78.33
78 Se # 1	0.001177	0.001177	ug/l	857.26	100.00		19.33	19.67	24.33
88 Sr # 3	3.936	3.936	ug/l	0.80	1800.00		99247.69	98955.47	99756.25
95 Mo # 3	0.5404	0.5404	ug/l	6.75	1800.00		2076.85	2336.89	2366.89
107 Ag # 3	-0.004141	-0.004141	ug/l	33.30	100.00		86.67	60.00	86.67
111 Cd # 3	0.03694	0.03694	ug/l	10.72	100.00		92.88	86.16	106.15
118 Sn # 3	0.1278	0.1278	ug/l	5.16	1800.00		1700.13	1616.79	1713.48
121 Sb # 3	0.1569	0.1569	ug/l	2.72	100.00		1403.44	1463.43	1503.45
137 Ba # 3	6.921	6.921	ug/l	0.94	1800.00		27282.40	27903.49	27806.63
202 Hg # 3	-0.01703	-0.01703	ug/l	23.85	5.00		79.67	56.00	75.67
205 Tl # 3	0.0108	0.0108	ug/l	18.89	20.00		473.36	543.36	433.35
208 Pb # 3	0.1562	0.1562	ug/l	3.47	1800.00		6870.83	7270.90	7097.51
232 Th # 3	0.04739	0.04739	ug/l	3.30	#VALUE!		2140.21	2220.23	2160.22
238 U # 3	0.04156	0.04156	ug/l	5.33	#VALUE!		1746.83	1840.18	1690.14

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	439303.47	0.88	442436.88	99.3	60 - 125		436219.56	438037.03	443653.78
45 Sc # 1	456777.06	0.36	456299.72	100.1	60 - 125		457993.59	454887.97	457449.63
45 Sc # 3	776289.44	0.35	765061.25	101.5	60 - 125		775662.25	779258.13	773947.88
74 Ge # 1	153418.39	0.50	153441.28	100.0	60 - 125		153071.73	152881.33	154302.16
74 Ge # 2	45825.85	1.55	47804.94	95.9	60 - 125		45161.23	45744.91	46571.40
74 Ge # 3	222887.47	0.71	224564.78	99.3	60 - 125		221171.34	224301.89	223189.22
89 Y # 3	1296723.30	0.40	1302847.50	99.5	60 - 125		1295891.40	1302290.90	1291987.50
115 In # 3	1339240.90	0.87	1366177.60	98.0	60 - 125		1329195.90	1336430.60	1352096.00
159 Tb # 3	1967278.80	0.30	2052817.90	95.8	60 - 125		1968818.10	1972289.10	1960728.90
209 Bi # 3	1336987.30	0.96	1405468.50	95.1	60 - 125		1344309.60	1322114.50	1344537.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\103_CCV.D\103_CCV.D#
 Date Acquired: Aug 24 2014 10:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.26 ug/l	1.09	50.00	89.5 - 110		97330.17	97297.19	97564.44
11 B	98.34 ug/l	1.05	100.00	89.5 - 110		149093.95	153873.44	153686.27
23 Na	5173 ug/l	0.55	5000.00	89.5 - 110		18695804.00	18503154.00	18555862.00
24 Mg	5165 ug/l	0.10	5000.00	89.5 - 110		12939193.00	12941917.00	12958374.00
27 Al	524.5 ug/l	0.21	500.00	89.5 - 110		1562020.40	1558986.90	1564593.80
39 K	4877 ug/l	1.42	5000.00	89.5 - 110		1717525.00	1765320.60	1770047.00
40 Ca	5193 ug/l	0.58	5000.00	89.5 - 110		35995160.00	35598548.00	35752660.00
47 Ti	50.59 ug/l	2.67	50.00	89.5 - 110		60012.99	58862.72	59531.22
51 V	49.91 ug/l	0.65	50.00	89.5 - 110		137046.56	138229.53	140621.47
52 Cr	50.04 ug/l	0.35	50.00	89.5 - 110		167662.20	168221.91	169406.94
55 Mn	506.3 ug/l	0.71	500.00	89.5 - 110		10070727.00	10085811.00	10341738.00
56 Fe	5309 ug/l	0.16	5000.00	89.5 - 110		47700928.00	47656932.00	47785564.00
59 Co	50.16 ug/l	0.70	50.00	89.5 - 110		759895.38	756818.63	770807.13
60 Ni	51.44 ug/l	0.63	50.00	89.5 - 110		63752.31	64269.55	64379.88
63 Cu	50.42 ug/l	0.32	50.00	89.5 - 110		171740.86	172478.56	173851.41
66 Zn	49.39 ug/l	1.02	50.00	89.5 - 110		108045.71	111030.16	110265.51
75 As	50.46 ug/l	0.21	50.00	89.5 - 110		18262.11	18302.47	18583.75
78 Se	51.24 ug/l	0.57	50.00	89.5 - 110		14311.96	14183.85	14208.21
88 Sr	48.92 ug/l	1.06	50.00	89.5 - 110		1279488.50	1294458.40	1285486.50
95 Mo	50.61 ug/l	1.29	50.00	89.5 - 110		209873.67	209482.19	209790.67
107 Ag	49.03 ug/l	1.19	50.00	89.5 - 110		567322.75	569132.56	567048.06
111 Cd	49.84 ug/l	1.11	50.00	89.5 - 110		124220.02	123904.01	126018.89
118 Sn	50.05 ug/l	0.84	50.00	89.5 - 110		392497.84	394487.34	395718.72
121 Sb	49.23 ug/l	1.35	50.00	89.5 - 110		464730.34	462298.38	465178.91
137 Ba	48.92 ug/l	1.57	50.00	89.5 - 110		204645.20	202457.78	204747.73
202 Hg	2.481 ug/l	0.55	2.50	89.5 - 110		8232.14	8178.11	8247.82
205 Tl	9.739 ug/l	0.78	10.00	89.5 - 110		266585.84	271518.06	268846.47
208 Pb	48.82 ug/l	0.42	50.00	89.5 - 110		1826841.40	1847142.60	1835702.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	447986.44	1.21	442436.88	101.3	60 - 125		442676.25	447774.88	453508.28
45 Sc	464584.56	0.03	456299.72	101.8	60 - 125		464556.84	464730.41	464466.44
45 Sc	797555.06	1.78	765061.25	104.2	60 - 125		781207.75	806329.69	805127.81
74 Ge	159941.22	0.19	153441.28	104.2	60 - 125		159768.59	159754.45	160300.64
74 Ge	47885.52	0.79	47804.94	100.2	60 - 125		47682.04	47654.15	48320.35
74 Ge	234251.30	1.04	224564.78	104.3	60 - 125		231865.36	234164.70	236723.80
89 Y	1353407.00	1.17	1302847.50	103.9	60 - 125		1337416.50	1353778.60	1369025.60
115 In	1398560.10	1.22	1366177.60	102.4	60 - 125		1378989.50	1406119.40	1410571.40
159 Tb	2038646.30	0.14	2052817.90	99.3	60 - 125		2035754.50	2041270.40	2038913.80
209 Bi	1341209.00	0.60	1405468.50	95.4	60 - 125		1333432.30	1349618.60	1340576.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\104_CCB.D\104_CCB.D#
 Date Acquired: Aug 24 2014 10:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002893	0.002893	ug/l	60.87	#VALUE!		10.00	3.33	6.67
11 B #3	1.597	1.597	ug/l	2.78	#VALUE!		4837.39	4800.72	4954.09
23 Na #1	-5.058	-5.058	ug/l	2.09	#VALUE!		81375.09	81157.44	81167.07
24 Mg #1	0.1081	0.1081	ug/l	63.78	#VALUE!		1580.11	1216.74	1406.76
27 Al #1	0.07015	0.07015	ug/l	49.21	#VALUE!		1996.84	1790.13	1973.49
39 K #2	-7.167	-7.167	ug/l	9.31	#VALUE!		10820.03	10623.29	11200.23
40 Ca #1	0.1499	0.1499	ug/l	62.72	#VALUE!		28338.56	28231.54	27184.32
47 Ti #3	-0.06328	-0.06328	ug/l	8.93	#VALUE!		33.33	43.33	46.67
51 V #2	0.003373	0.003373	ug/l	112.96	#VALUE!		242.23	261.12	244.45
52 Cr #2	-0.01315	-0.01315	ug/l	43.26	#VALUE!		313.34	296.67	281.12
55 Mn #3	0.03206	0.03206	ug/l	7.46	#VALUE!		2153.52	2186.86	2106.84
56 Fe #1	0.6593	0.6593	ug/l	7.24	#VALUE!		11096.90	10126.33	10466.60
59 Co #3	0.001165	0.001165	ug/l	46.98	#VALUE!		93.34	93.34	80.00
60 Ni #2	-0.01067	-0.01067	ug/l	65.18	#VALUE!		46.67	30.00	40.00
63 Cu #2	-0.06552	-0.06552	ug/l	7.27	#VALUE!		213.34	246.67	227.78
66 Zn #3	-0.1084	-0.1084	ug/l	8.63	#VALUE!		403.35	446.69	413.35
75 As #2	0.009772	0.009772	ug/l	57.70	#VALUE!		21.00	17.33	18.33
78 Se #1	-0.01805	-0.01805	ug/l	30.20	#VALUE!		18.00	17.33	15.00
88 Sr #3	0.00242	0.00242	ug/l	84.79	#VALUE!		173.34	226.67	283.35
95 Mo #3	0.02994	0.02994	ug/l	14.06	#VALUE!		250.01	223.34	256.68
107 Ag #3	-0.004077	-0.004077	ug/l	37.33	#VALUE!		76.67	100.00	66.67
111 Cd #3	0.00176	0.00176	ug/l	91.19	#VALUE!		13.28	13.28	6.61
118 Sn #3	0.105	0.105	ug/l	5.60	#VALUE!		1553.45	1503.45	1613.45
121 Sb #3	0.01807	0.01807	ug/l	34.78	#VALUE!		273.34	170.01	186.67
137 Ba #3	0.002952	0.002952	ug/l	92.72	#VALUE!		56.67	60.00	40.00
202 Hg #3	0.005468	0.005468	ug/l	14.46	#VALUE!		144.34	142.34	145.67
205 Tl #3	-0.002234	-0.002234	ug/l	23.99	#VALUE!		146.67	146.67	123.34
208 Pb #3	-0.003208	-0.003208	ug/l	1120.60	#VALUE!		576.69	2878.61	533.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	444947.38	0.92	442436.88	100.6	60 - 125		440384.09	446089.78	448368.22
45 Sc #1	466429.78	0.59	456299.72	102.2	60 - 125		469156.16	463626.66	466506.50
45 Sc #3	765997.94	1.49	765061.25	100.1	60 - 125		753832.06	767733.31	776428.44
74 Ge #1	160991.45	0.39	153441.28	104.9	60 - 125		161678.95	160821.97	160473.44
74 Ge #2	47321.84	0.93	47804.94	99.0	60 - 125		46893.29	47296.65	47775.58
74 Ge #3	229549.39	0.95	224564.78	102.2	60 - 125		227039.53	230752.34	230856.34
89 Y #3	1340116.80	1.00	1302847.50	102.9	60 - 125		1324825.90	1349474.60	1346049.80
115 In #3	1385536.10	1.64	1366177.60	101.4	60 - 125		1363128.40	1384983.10	1408497.00
159 Tb #3	2007203.50	1.30	2052817.90	97.8	60 - 125		1977186.00	2019485.40	2024938.80
209 Bi #3	1357874.30	1.57	1405468.50	96.6	60 - 125		1333926.50	1364679.00	1375017.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\105SMPL.D\105SMPL.D#
 Date Acquired: Aug 24 2014 10:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-a-21-b
 Misc Info: 3005 1/50
 Vial Number: 2409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	67.97	6.797	ug/l	2.36	100.00		12761.11	13581.65	13214.79
11 B # 3	15.66	1.566	ug/l	0.78	1800.00		4784.04	4854.05	4924.06
23 Na # 1	240600	24060	ug/l	0.31	81000.00		86689584.00	86494136.00	87031200.00
24 Mg # 1	186400	18640	ug/l	1.07	81000.00		47116848.00	47373724.00	46795324.00
27 Al # 1	50540	5054	ug/l	0.62	81000.00		15178501.00	15169285.00	15116121.00
39 K # 2	9776	977.6	ug/l	0.92	81000.00		363335.59	368182.34	373475.81
40 Ca # 1	260600	26060	ug/l	0.71	81000.00		180378450.00	181303540.00	180989620.00
47 Ti # 3	0.1352	0.01352	ug/l	116.42	1620.00		110.00	140.00	146.67
51 V # 2	2.338	0.2338	ug/l	3.84	1800.00		930.03	902.25	888.92
52 Cr # 2	0.2354	0.02354	ug/l	39.51	1800.00		408.90	466.68	418.90
55 Mn # 3	2666	266.6	ug/l	0.45	1800.00		5304546.00	5270853.50	5296684.00
56 Fe # 1	6833	683.3	ug/l	0.40	81000.00		6188320.50	6153760.50	6240143.00
59 Co # 3	179	17.9	ug/l	0.26	1800.00		269128.50	267938.44	269813.44
60 Ni # 2	180.5	18.05	ug/l	0.54	1800.00		22881.98	22730.70	23196.81
63 Cu # 2	93.2	9.32	ug/l	1.27	1800.00		33120.76	32836.92	32646.61
66 Zn # 3	405.8	40.58	ug/l	0.92	1800.00		89169.15	88010.49	90592.20
75 As # 2	33.76	3.376	ug/l	0.93	100.00		1257.38	1276.05	1266.71
78 Se # 1	10.59	1.059	ug/l	3.14	100.00		313.00	325.67	311.67
88 Sr # 3	1201	120.1	ug/l	0.34	1800.00		9538412.00	9530088.00	9660614.00
95 Mo # 3	-0.01499	-0.001499	ug/l	192.73	1800.00		113.34	100.00	123.34
107 Ag # 3	0.081	0.0081	ug/l	11.82	100.00		220.01	223.34	206.67
111 Cd # 3	3.037	0.3037	ug/l	1.69	100.00		720.01	750.02	766.68
118 Sn # 3	0.7851	0.07851	ug/l	11.67	1800.00		1290.08	1410.10	1276.75
121 Sb # 3	0.06436	0.006436	ug/l	58.02	100.00		83.34	140.00	76.67
137 Ba # 3	9368	936.8	ug/l	0.81	1800.00		3763602.50	3800045.00	3825352.00
202 Hg # 3	-0.0134	-0.00134	ug/l	580.97	5.00		121.67	112.00	165.02
205 Tl # 3	1.49	0.149	ug/l	1.59	20.00		4684.18	4574.13	4577.47
208 Pb # 3	634.5	63.45	ug/l	0.61	1800.00		2553998.30	2543458.30	2555825.50
232 Th # 3	0.566	0.0566	ug/l	8.47	#VALUE!		2573.63	2250.24	2476.95
238 U # 3	25.65	2.565	ug/l	1.06	#VALUE!		102172.88	101862.77	102755.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	448375.50	1.23	442436.88	101.3	60 - 125		442233.91	449929.38	452963.16
45 Sc # 1	468253.25	0.50	456299.72	102.6	60 - 125		469508.59	465562.88	469688.25
45 Sc # 3	792999.44	1.06	765061.25	103.7	60 - 125		785279.44	791732.13	801986.88
74 Ge # 1	160711.75	0.72	153441.28	104.7	60 - 125		162028.95	159837.08	160269.22
74 Ge # 2	48740.06	0.58	47804.94	102.0	60 - 125		48561.04	48591.16	49067.97
74 Ge # 3	231480.36	0.55	224564.78	103.1	60 - 125		231151.92	230400.91	232888.25
89 Y # 3	4102357.80	0.43	1302847.50	314.9	60 - 125	IS I	4095383.30	4089303.80	4122387.50
115 In # 3	1359721.10	1.56	1366177.60	99.5	60 - 125		1335444.30	1368646.00	1375072.90
159 Tb # 3	2179314.00	0.85	2052817.90	106.2	60 - 125		2181165.00	2159899.50	2196877.50
209 Bi # 3	1280455.40	0.74	1405468.50	91.1	60 - 125		1272845.10	1291107.90	1277413.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\106SMPL.D\106SMPL.D#
 Date Acquired: Aug 24 2014 11:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-c-7-b
 Misc Info: 3005 1/5
 Vial Number: 2410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002261	0.002261	ug/l	44.13	100.00		3.33	6.67	6.67
11 B # 3	1.167	1.167	ug/l	6.21	1800.00		4333.94	4333.91	4203.89
23 Na # 1	14.9	14.9	ug/l	1.24	81000.00		153209.84	152823.09	154684.94
24 Mg # 1	12.29	12.29	ug/l	1.63	81000.00		32668.24	31957.01	32030.63
27 Al # 1	3.363	3.363	ug/l	1.09	81000.00		11710.61	11937.68	11783.88
39 K # 2	-0.2573	-0.2573	ug/l	146.40	81000.00		13298.34	13518.53	14095.61
40 Ca # 1	39.81	39.81	ug/l	0.91	81000.00		305205.53	302321.75	303165.50
47 Ti # 3	-0.009953	-0.009953	ug/l	51.43	1620.00		106.67	100.00	100.00
51 V # 2	0.1831	0.1831	ug/l	7.65	1800.00		766.69	762.24	747.80
52 Cr # 2	0.0368	0.0368	ug/l	9.70	1800.00		471.12	468.90	482.23
55 Mn # 3	0.1767	0.1767	ug/l	1.58	1800.00		4970.81	4977.45	5080.83
56 Fe # 1	7.723	7.723	ug/l	0.27	81000.00		74557.59	74499.59	74918.30
59 Co # 3	-0.0004162	-0.0004162	ug/l	26.07	1800.00		63.34	66.67	66.67
60 Ni # 2	0.2982	0.2982	ug/l	10.85	1800.00		461.12	410.01	414.45
63 Cu # 2	-0.02109	-0.02109	ug/l	45.82	1800.00		413.34	355.56	395.56
66 Zn # 3	0.6063	0.6063	ug/l	10.41	1800.00		1810.14	2026.83	2086.84
75 As # 2	0.04104	0.04104	ug/l	10.62	100.00		31.33	28.67	32.67
78 Se # 1	-0.03672	-0.03672	ug/l	26.99	100.00		10.33	14.67	9.67
88 Sr # 3	0.3706	0.3706	ug/l	1.70	1800.00		9846.32	9756.25	9656.17
95 Mo # 3	0.05712	0.05712	ug/l	6.72	1800.00		346.68	346.68	376.68
107 Ag # 3	-0.003343	-0.003343	ug/l	52.62	100.00		110.00	90.00	70.00
111 Cd # 3	0.000378	0.000378	ug/l	411.64	100.00		9.92	9.92	3.25
118 Sn # 3	0.1276	0.1276	ug/l	6.99	1800.00		1790.15	1763.48	1670.13
121 Sb # 3	0.01626	0.01626	ug/l	24.34	100.00		236.68	176.67	170.01
137 Ba # 3	0.07839	0.07839	ug/l	14.99	1800.00		420.02	346.68	330.01
202 Hg # 3	-0.01551	-0.01551	ug/l	29.78	5.00		85.00	60.33	87.67
205 Tl # 3	-0.004156	-0.004156	ug/l	18.65	20.00		96.67	63.34	103.34
208 Pb # 3	-0.001189	-0.001189	ug/l	1093.40	1800.00		1966.29	1160.06	1116.72
232 Th # 3	0.02831	0.02831	ug/l	9.48	#VALUE!		1386.78	1536.79	1336.77
238 U # 3	0.0009563	0.0009563	ug/l	54.07	#VALUE!		73.34	46.67	90.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	453133.59	1.26	442436.88	102.4	60 - 125		456615.25	446540.97	456244.47
45 Sc # 1	468680.34	0.41	456299.72	102.7	60 - 125		466732.44	468712.69	470595.91
45 Sc # 3	774631.88	1.96	765061.25	101.3	60 - 125		758096.56	777877.00	787922.13
74 Ge # 1	161000.50	0.44	153441.28	104.9	60 - 125		161630.58	160229.92	161141.00
74 Ge # 2	48485.91	3.98	47804.94	101.4	60 - 125		47063.71	47714.36	50679.68
74 Ge # 3	230223.33	0.47	224564.78	102.5	60 - 125		228971.81	230963.25	230734.89
89 Y # 3	1331987.40	1.05	1302847.50	102.2	60 - 125		1334877.50	1316713.80	1344370.90
115 In # 3	1392425.80	0.41	1366177.60	101.9	60 - 125		1389617.80	1388613.10	1399046.40
159 Tb # 3	2030337.30	0.58	2052817.90	98.9	60 - 125		2019235.40	2029146.30	2042630.10
209 Bi # 3	1345441.50	0.31	1405468.50	95.7	60 - 125		1344321.60	1341961.50	1350041.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\107SMPL.D\107SMPL.D#
 Date Acquired: Aug 24 2014 11:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-c-9-b
 Misc Info: 3005 1/5
 Vial Number: 2411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001113	0.001113	ug/l	152.65	100.00		0.00	6.67	3.33
11 B # 3	0.9932	0.9932	ug/l	8.18	1800.00		3873.82	4163.90	4053.87
23 Na # 1	13.79	13.79	ug/l	1.90	81000.00		150606.75	149353.47	148399.70
24 Mg # 1	11.84	11.84	ug/l	0.75	81000.00		31412.76	30955.39	30811.96
27 Al # 1	1.293	1.293	ug/l	3.24	81000.00		5510.95	5697.68	5570.95
39 K # 2	-1.491	-1.491	ug/l	28.77	81000.00		12874.72	12951.41	12961.48
40 Ca # 1	36.16	36.16	ug/l	0.88	81000.00		278956.91	274626.41	280477.78
47 Ti # 3	-0.04669	-0.04669	ug/l	43.41	1620.00		50.00	43.33	86.67
51 V # 2	0.1103	0.1103	ug/l	9.22	1800.00		516.68	572.24	544.46
52 Cr # 2	-0.000569	-0.000569	ug/l	1899.80	1800.00		373.34	336.67	310.01
55 Mn # 3	0.06371	0.06371	ug/l	11.31	1800.00		2573.58	2843.64	2866.97
56 Fe # 1	1.54	1.54	ug/l	0.61	81000.00		18779.92	18469.62	18513.03
59 Co # 3	-0.001211	-0.001211	ug/l	28.56	1800.00		50.00	60.00	50.00
60 Ni # 2	0.1505	0.1505	ug/l	12.48	1800.00		233.34	261.12	220.00
63 Cu # 2	-0.02115	-0.02115	ug/l	24.67	1800.00		394.45	377.79	368.90
66 Zn # 3	0.4622	0.4622	ug/l	4.84	1800.00		1583.44	1720.13	1646.80
75 As # 2	0.02643	0.02643	ug/l	11.60	100.00		24.33	24.00	26.67
78 Se # 1	-0.03762	-0.03762	ug/l	24.55	100.00		9.00	11.00	14.00
88 Sr # 3	0.3667	0.3667	ug/l	0.49	1800.00		9639.57	9689.55	9616.21
95 Mo # 3	0.0474	0.0474	ug/l	9.51	1800.00		330.01	310.01	303.34
107 Ag # 3	-0.004658	-0.004658	ug/l	8.75	100.00		73.34	80.00	70.00
111 Cd # 3	-0.000505	-0.000505	ug/l	305.54	100.00		3.26	3.27	9.93
118 Sn # 3	0.09674	0.09674	ug/l	14.91	1800.00		1576.79	1506.78	1386.77
121 Sb # 3	0.007462	0.007462	ug/l	32.07	100.00		120.00	86.67	126.67
137 Ba # 3	0.03469	0.03469	ug/l	16.66	1800.00		166.67	213.34	170.01
202 Hg # 3	-0.01811	-0.01811	ug/l	11.88	5.00		61.67	76.00	68.33
205 Tl # 3	-0.00519	-0.00519	ug/l	5.74	20.00		50.00	66.67	60.00
208 Pb # 3	-0.01855	-0.01855	ug/l	4.92	1800.00		723.36	796.70	760.03
232 Th # 3	0.01393	0.01393	ug/l	7.07	#VALUE!		890.05	840.05	806.71
238 U # 3	0.0004777	0.0004777	ug/l	90.56	#VALUE!		43.34	36.67	70.00

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	453962.03	1.21	442436.88	102.6	60 - 125		448611.88	453660.41	459613.84
45 Sc # 1	468362.56	0.54	456299.72	102.6	60 - 125		470894.56	465796.50	468396.59
45 Sc # 3	768107.06	0.62	765061.25	100.4	60 - 125		764211.25	766727.25	773382.69
74 Ge # 1	161482.84	0.88	153441.28	105.2	60 - 125		163108.59	160555.09	160784.88
74 Ge # 2	47512.34	1.41	47804.94	99.4	60 - 125		47039.26	47220.87	48276.90
74 Ge # 3	228623.44	1.23	224564.78	101.8	60 - 125		226093.83	231664.42	228112.05
89 Y # 3	1331399.00	0.14	1302847.50	102.2	60 - 125		1333306.30	1329630.00	1331261.00
115 In # 3	1383875.30	1.55	1366177.60	101.3	60 - 125		1359918.10	1401277.90	1390429.60
159 Tb # 3	2014276.60	0.96	2052817.90	98.1	60 - 125		1995218.10	2013778.10	2033833.90
209 Bi # 3	1351056.00	1.05	1405468.50	96.1	60 - 125		1350347.10	1365629.40	1337191.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\108SMPL.D\108SMPL.D#
 Date Acquired: Aug 24 2014 11:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-c-12-b
 Misc Info: 3005 1/5
 Vial Number: 2412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0005651	0.0005651	ug/l	175.23	100.00		3.33	0.00	3.33
11 B #3	0.9342	0.9342	ug/l	3.58	1800.00		3917.16	3837.15	3933.83
23 Na #1	28.45	28.45	ug/l	1.00	81000.00		196890.39	199156.41	198619.47
24 Mg #1	18.31	18.31	ug/l	0.91	81000.00		45975.46	46423.17	46911.06
27 Al #1	2.468	2.468	ug/l	3.26	81000.00		9185.76	8738.90	8882.32
39 K #2	4.353	4.353	ug/l	24.81	81000.00		14535.93	14355.80	15026.31
40 Ca #1	65.24	65.24	ug/l	0.19	81000.00		469322.75	469583.22	471713.91
47 Ti #3	0.01097	0.01097	ug/l	207.38	1620.00		93.34	140.00	133.34
51 V #2	0.1708	0.1708	ug/l	6.65	1800.00		662.24	711.13	707.80
52 Cr #2	0.06035	0.06035	ug/l	19.17	1800.00		514.46	572.24	504.46
55 Mn #3	0.2167	0.2167	ug/l	1.57	1800.00		5634.36	5697.72	5621.01
56 Fe #1	17.2	17.2	ug/l	0.41	81000.00		157732.70	156731.52	157310.19
59 Co #3	0.001371	0.001371	ug/l	112.40	1800.00		76.67	76.67	116.67
60 Ni #2	0.1821	0.1821	ug/l	7.01	1800.00		254.45	280.01	277.78
63 Cu #2	-0.01074	-0.01074	ug/l	45.75	1800.00		413.34	386.67	417.79
66 Zn #3	0.5959	0.5959	ug/l	5.44	1800.00		1823.47	1890.15	1993.50
75 As #2	0.04417	0.04417	ug/l	32.62	100.00		36.67	28.33	27.00
78 Se #1	-0.03928	-0.03928	ug/l	8.47	100.00		11.00	9.67	11.33
88 Sr #3	0.5225	0.5225	ug/l	3.12	1800.00		13362.03	13065.05	13902.36
95 Mo #3	0.1629	0.1629	ug/l	5.14	1800.00		813.37	766.71	746.70
107 Ag #3	-0.003668	-0.003668	ug/l	18.50	100.00		93.34	80.00	80.00
111 Cd #3	-0.001875	-0.001875	ug/l	42.08	100.00		3.15	-0.17	3.17
118 Sn #3	0.1255	0.1255	ug/l	8.75	1800.00		1593.45	1720.13	1750.14
121 Sb #3	0.006786	0.006786	ug/l	16.15	100.00		93.34	103.34	113.34
137 Ba #3	0.06224	0.06224	ug/l	9.23	1800.00		290.01	316.68	270.01
202 Hg #3	-0.02145	-0.02145	ug/l	13.95	5.00		68.34	50.00	54.67
205 Tl #3	-0.00555	-0.00555	ug/l	7.01	20.00		56.67	36.67	53.34
208 Pb #3	-0.006723	-0.006723	ug/l	30.14	1800.00		1276.73	1156.72	1150.05
232 Th #3	0.01389	0.01389	ug/l	6.52	#VALUE!		816.72	886.73	836.72
238 U #3	0.0003131	0.0003131	ug/l	115.91	#VALUE!		30.00	60.00	40.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	448987.44	0.38	442436.88	101.5	60 - 125		450938.31	448300.16	447723.78
45 Sc #1	458963.09	0.12	456299.72	100.6	60 - 125		458380.47	459015.78	459493.09
45 Sc #3	750440.19	0.18	765061.25	98.1	60 - 125		749748.00	752016.81	749555.81
74 Ge #1	158341.02	0.33	153441.28	103.2	60 - 125		157972.45	158943.72	158106.89
74 Ge #2	46381.66	0.47	47804.94	97.0	60 - 125		46634.97	46258.36	46251.67
74 Ge #3	224386.69	1.11	224564.78	99.9	60 - 125		221520.05	225585.67	226054.38
89 Y #3	1308410.60	0.85	1302847.50	100.4	60 - 125		1320276.10	1298221.60	1306734.00
115 In #3	1362517.60	0.06	1366177.60	99.7	60 - 125		1363311.50	1362599.40	1361642.10
159 Tb #3	206637.50	0.72	2052817.90	97.8	60 - 125		2001107.90	1995767.90	2023036.60
209 Bi #3	1355614.40	0.10	1405468.50	96.5	60 - 125		1355684.90	1354214.40	1356943.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\109SMPL.D\109SMPL.D#
 Date Acquired: Aug 24 2014 11:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: RLV
 Misc Info: 3005 1/5
 Vial Number: 2501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.5431	0.5431	ug/l	2.73	100.00		996.72	1026.72	1046.73
11 B # 3	112.7	112.7	ug/l	1.00	1800.00		168268.70	168711.44	170603.25
23 Na # 1	296	296	ug/l	0.62	81000.00		1127392.30	1119325.90	1115036.60
24 Mg # 1	298.5	298.5	ug/l	0.86	81000.00		719782.56	730769.44	726711.44
27 Al # 1	61.45	61.45	ug/l	0.71	81000.00		179031.33	179663.20	177564.67
39 K # 2	257.2	257.2	ug/l	0.68	81000.00		98964.91	100754.42	101484.45
40 Ca # 1	310.6	310.6	ug/l	0.81	81000.00		2087002.60	2087550.80	2118729.50
47 Ti # 3	5.287	5.287	ug/l	4.55	1620.00		5457.63	5914.42	5867.72
51 V # 2	5.495	5.495	ug/l	1.58	1800.00		14375.61	14886.00	15056.13
52 Cr # 2	5.301	5.301	ug/l	1.55	1800.00		17177.99	17524.98	17256.93
55 Mn # 3	5.557	5.557	ug/l	1.21	1800.00		105538.34	107052.98	107173.73
56 Fe # 1	122.1	122.1	ug/l	0.44	81000.00		1071812.80	1067379.40	1062970.30
59 Co # 3	0.5192	0.5192	ug/l	3.35	1800.00		7545.07	7655.13	7315.01
60 Ni # 2	5.487	5.487	ug/l	0.31	1800.00		6534.53	6552.33	6633.46
63 Cu # 2	5.322	5.322	ug/l	0.45	1800.00		17680.74	17764.16	17909.90
66 Zn # 3	23.81	23.81	ug/l	1.33	1800.00		49440.37	50362.96	50787.38
75 As # 2	2.708	2.708	ug/l	1.87	100.00		967.03	945.36	954.69
78 Se # 1	2.582	2.582	ug/l	0.81	100.00		734.35	728.68	721.02
88 Sr # 3	1.055	1.055	ug/l	1.13	1800.00		25435.38	25982.72	26326.48
95 Mo # 3	5.21	5.21	ug/l	0.89	1800.00		20358.82	20308.81	20392.16
107 Ag # 3	0.2286	0.2286	ug/l	7.46	100.00		2756.98	2423.57	2630.28
111 Cd # 3	0.5333	0.5333	ug/l	4.58	100.00		1308.95	1215.61	1248.93
118 Sn # 3	5.694	5.694	ug/l	1.01	1800.00		42178.51	43318.20	42572.94
121 Sb # 3	5.215	5.215	ug/l	1.49	100.00		46255.71	46546.35	45664.17
137 Ba # 3	5.434	5.434	ug/l	2.10	1800.00		21463.98	21457.32	20926.70
202 Hg # 3	0.7932	0.7932	ug/l	0.79	5.00		2603.22	2593.55	2594.88
205 Tl # 3	1.051	1.051	ug/l	0.24	20.00		27784.95	27995.34	28025.33
208 Pb # 3	1.638	1.638	ug/l	0.16	1800.00		59953.58	60223.81	60757.33
232 Th # 3	2.362	2.362	ug/l	1.01	#VALUE!		93542.77	94148.76	94612.73
238 U # 3	2.568	2.568	ug/l	1.18	#VALUE!		105467.20	106277.20	107124.98

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	435183.84	0.27	442436.88	98.4	60 - 125		436398.22	435067.91	434085.41
45 Sc # 1	450092.56	0.12	456299.72	98.6	60 - 125		450353.72	449468.94	450454.97
45 Sc # 3	725016.88	1.15	765061.25	94.8	60 - 125		723426.06	717608.00	734016.38
74 Ge # 1	157817.69	0.19	153441.28	102.9	60 - 125		158165.75	157605.48	157681.80
74 Ge # 2	45700.71	1.09	47804.94	95.6	60 - 125		45284.82	45566.67	46250.63
74 Ge # 3	220777.05	1.02	224564.78	98.3	60 - 125		220415.67	218735.52	223179.94
89 Y # 3	1257076.40	0.91	1302847.50	96.5	60 - 125		1249992.90	1250956.40	1270279.80
115 In # 3	1311880.60	0.86	1366177.60	96.0	60 - 125		1298935.50	1316879.90	1319826.40
159 Tb # 3	1950226.30	0.58	2052817.90	95.0	60 - 125		1938947.50	1950298.10	1961432.90
209 Bi # 3	1329232.40	0.54	1405468.50	94.6	60 - 125		1336884.30	1322484.60	1328328.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\110_QCS.D\110_QCS.D#
 Date Acquired: Aug 24 2014 11:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	9.92	0.10 69.5 - 130	
11 B	20.82 ug/l	1.76	20.00 69.5 - 130	
23 Na	48.58 ug/l	1.22	50.00 69.5 - 130	
24 Mg	57.65 ug/l	0.62	50.00 69.5 - 130	
27 Al	11.75 ug/l	1.21	10.00 69.5 - 130	
39 K	44.50 ug/l	2.13	50.00 69.5 - 130	
40 Ca	59.71 ug/l	0.45	50.00 69.5 - 130	
47 Ti	0.97 ug/l	6.63	1.00 69.5 - 130	
51 V	1.02 ug/l	0.34	1.00 69.5 - 130	
52 Cr	1.00 ug/l	0.91	1.00 69.5 - 130	
55 Mn	1.07 ug/l	0.31	1.00 69.5 - 130	
56 Fe	23.24 ug/l	1.17	20.00 69.5 - 130	
59 Co	0.10 ug/l	2.53	0.10 69.5 - 130	
60 Ni	1.07 ug/l	3.39	1.00 69.5 - 130	
63 Cu	0.95 ug/l	1.14	1.00 69.5 - 130	
66 Zn	4.16 ug/l	2.38	4.00 69.5 - 130	
75 As	0.50 ug/l	2.37	0.50 69.5 - 130	
78 Se	0.46 ug/l	4.85	0.50 69.5 - 130	
88 Sr	0.19 ug/l	3.23	0.20 69.5 - 130	
95 Mo	0.99 ug/l	2.03	1.00 69.5 - 130	
107 Ag	0.20 ug/l	4.52	0.20 69.5 - 130	
111 Cd	0.09 ug/l	0.77	0.10 69.5 - 130	
118 Sn	1.08 ug/l	3.65	1.00 69.5 - 130	
121 Sb	0.98 ug/l	1.55	1.00 69.5 - 130	
137 Ba	1.00 ug/l	6.21	1.00 69.5 - 130	
202 Hg	0.14 ug/l	4.05	0.16 69.5 - 130	
205 Tl	0.20 ug/l	1.86	0.20 69.5 - 130	
208 Pb	0.28 ug/l	6.15	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	456748.91	0.70	442436.88	103.2	60 - 125		
45 Sc	474127.78	0.48	456299.72	103.9	60 - 125		
45 Sc	781493.44	0.53	765061.25	102.1	60 - 125		
74 Ge	162959.59	0.45	153441.28	106.2	60 - 125		
74 Ge	48025.57	0.17	47804.94	100.5	60 - 125		
74 Ge	230513.91	0.27	224564.78	102.6	60 - 125		
89 Y	1351453.40	0.68	1302847.50	103.7	60 - 125		
115 In	1397779.00	0.74	1366177.60	102.3	60 - 125		
159 Tb	2047462.00	0.43	2052817.90	99.7	60 - 125		
209 Bi	1385025.30	0.62	1405468.50	98.5	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\111_CCV.D\111_CCV.D#
 Date Acquired: Aug 24 2014 11:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.03 ug/l	0.06	50.00	89.5 - 110		94975.44	94868.09	93689.54
11 B	98.98 ug/l	0.65	100.00	89.5 - 110		149321.50	149517.73	149107.47
23 Na	5183 ug/l	0.50	5000.00	89.5 - 110		18903646.00	18773114.00	18774134.00
24 Mg	5164 ug/l	0.80	5000.00	89.5 - 110		12956892.00	13193230.00	13089988.00
27 Al	526 ug/l	0.98	500.00	89.5 - 110		1575009.30	1602357.90	1571935.80
39 K	4897 ug/l	0.59	5000.00	89.5 - 110		1731646.30	1761492.30	1762580.10
40 Ca	5202 ug/l	0.65	5000.00	89.5 - 110		36033200.00	36534372.00	36103352.00
47 Ti	50.36 ug/l	1.13	50.00	89.5 - 110		57254.44	58244.03	57431.47
51 V	49.86 ug/l	0.52	50.00	89.5 - 110		138112.06	137591.50	138227.75
52 Cr	49.75 ug/l	0.47	50.00	89.5 - 110		166664.56	166134.88	167747.13
55 Mn	508.6 ug/l	0.65	500.00	89.5 - 110		9891905.00	9927799.00	9896362.00
56 Fe	5331 ug/l	0.38	5000.00	89.5 - 110		48496760.00	48257672.00	48497520.00
59 Co	49.65 ug/l	0.94	50.00	89.5 - 110		732366.31	731197.50	732883.63
60 Ni	50.79 ug/l	0.29	50.00	89.5 - 110		62859.05	62933.84	63463.45
63 Cu	49.67 ug/l	0.48	50.00	89.5 - 110		169598.28	169139.70	169791.91
66 Zn	49.27 ug/l	1.04	50.00	89.5 - 110		107161.06	106198.63	105309.97
75 As	50.51 ug/l	0.86	50.00	89.5 - 110		18420.25	18309.81	18277.12
78 Se	50.97 ug/l	0.27	50.00	89.5 - 110		14312.29	14298.95	14393.69
88 Sr	49.47 ug/l	1.29	50.00	89.5 - 110		1259320.00	1255855.80	1261053.90
95 Mo	50.1 ug/l	0.39	50.00	89.5 - 110		204001.19	204129.92	203034.22
107 Ag	48.78 ug/l	0.31	50.00	89.5 - 110		555937.44	551541.75	555981.19
111 Cd	50.35 ug/l	0.51	50.00	89.5 - 110		124687.81	123204.38	123056.13
118 Sn	50.03 ug/l	0.39	50.00	89.5 - 110		388328.28	384184.78	387812.03
121 Sb	49.47 ug/l	0.45	50.00	89.5 - 110		456967.66	456707.28	459593.84
137 Ba	49.32 ug/l	0.32	50.00	89.5 - 110		201759.55	201988.22	201617.75
202 Hg	2.541 ug/l	0.73	2.50	89.5 - 110		8264.81	8275.84	8329.53
205 Tl	9.832 ug/l	0.99	10.00	89.5 - 110		267583.16	266204.06	268760.75
208 Pb	49.55 ug/l	0.71	50.00	89.5 - 110		1838498.90	1836360.60	1833412.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	436661.13	0.74	442436.88	98.7	60 - 125		439011.25	437998.44	432973.63
45 Sc	469482.56	0.11	456299.72	102.9	60 - 125		468975.44	469973.19	469499.09
45 Sc	776336.38	0.26	765061.25	101.5	60 - 125		778668.19	774797.88	775543.00
74 Ge	161915.42	0.26	153441.28	105.5	60 - 125		162135.75	161435.72	162174.81
74 Ge	47712.55	0.46	47804.94	99.8	60 - 125		47476.04	47758.92	47902.68
74 Ge	227217.20	0.83	224564.78	101.2	60 - 125		226691.19	229308.06	225652.39
89 Y	1309771.60	1.10	1302847.50	100.5	60 - 125		1300817.30	1326422.10	1302075.60
115 In	1372538.00	0.26	1366177.60	100.5	60 - 125		1376409.00	1369306.30	1371898.50
159 Tb	2008441.90	0.64	2052817.90	97.8	60 - 125		1995888.80	2021643.50	2007793.10
209 Bi	1331043.80	0.60	1405468.50	94.7	60 - 125		1324780.30	1340004.40	1328346.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\112_CCB.D\112_CCB.D#
 Date Acquired: Aug 24 2014 11:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002951	0.002951	ug/l	119.45	#VALUE!		0.00	6.67	13.33
11 B #3	1.973	1.973	ug/l	7.66	#VALUE!		5344.20	5500.91	5087.44
23 Na #1	-6.755	-6.755	ug/l	6.24	#VALUE!		72245.48	72091.56	74009.26
24 Mg #1	0.1122	0.1122	ug/l	23.97	#VALUE!		1390.10	1423.42	1286.74
27 Al #1	-0.06876	-0.06876	ug/l	54.12	#VALUE!		1456.77	1570.11	1346.76
39 K #2	-8.111	-8.111	ug/l	17.17	#VALUE!		10719.99	10586.61	9889.50
40 Ca #1	0.07498	0.07498	ug/l	75.19	#VALUE!		26292.22	26886.40	26439.03
47 Ti #3	-0.07108	-0.07108	ug/l	5.17	#VALUE!		33.33	26.67	33.33
51 V #2	-0.001213	-0.001213	ug/l	350.87	#VALUE!		231.11	244.45	224.45
52 Cr #2	-0.02196	-0.02196	ug/l	26.79	#VALUE!		263.34	282.23	246.67
55 Mn #3	0.01575	0.01575	ug/l	24.34	#VALUE!		1763.46	1716.80	1846.81
56 Fe #1	0.5941	0.5941	ug/l	8.97	#VALUE!		9209.19	10073.07	9692.80
59 Co #3	-0.0005788	-0.0005788	ug/l	241.88	#VALUE!		80.00	63.34	40.00
60 Ni #2	-0.008105	-0.008105	ug/l	24.82	#VALUE!		43.33	42.22	38.89
63 Cu #2	-0.065	-0.065	ug/l	4.33	#VALUE!		228.89	216.67	237.78
66 Zn #3	-0.1279	-0.1279	ug/l	18.13	#VALUE!		336.68	343.35	423.35
75 As #2	0.004871	0.004871	ug/l	99.43	#VALUE!		17.67	18.00	15.00
78 Se #1	-0.02064	-0.02064	ug/l	51.41	#VALUE!		18.67	13.00	15.33
88 Sr #3	0.002071	0.002071	ug/l	24.16	#VALUE!		200.01	206.67	223.34
95 Mo #3	0.0272	0.0272	ug/l	37.90	#VALUE!		253.34	180.01	246.68
107 Ag #3	-0.00312	-0.00312	ug/l	26.61	#VALUE!		93.34	96.67	80.00
111 Cd #3	0.00369	0.00369	ug/l	22.73	#VALUE!		16.61	16.63	13.28
118 Sn #3	0.09814	0.09814	ug/l	5.13	#VALUE!		1436.77	1516.79	1453.43
121 Sb #3	0.01708	0.01708	ug/l	8.17	#VALUE!		180.01	203.34	206.67
137 Ba #3	0.002672	0.002672	ug/l	91.17	#VALUE!		50.00	40.00	60.00
202 Hg #3	0.005025	0.005025	ug/l	60.72	#VALUE!		148.67	131.00	145.34
205 Tl #3	-0.002859	-0.002859	ug/l	7.27	#VALUE!		126.67	116.67	120.00
208 Pb #3	-0.02335	-0.02335	ug/l	5.63	#VALUE!		540.02	553.36	633.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	435017.84	0.56	442436.88	98.3	60 - 125		432361.28	435507.75	437184.47
45 Sc #1	451785.84	0.61	456299.72	99.0	60 - 125		454506.97	451866.22	448984.34
45 Sc #3	739051.63	1.48	765061.25	96.6	60 - 125		726831.75	742430.81	747892.25
74 Ge #1	157197.06	0.71	153441.28	102.4	60 - 125		157131.25	158340.72	156119.19
74 Ge #2	46656.84	0.55	47804.94	97.6	60 - 125		46718.43	46373.25	46878.83
74 Ge #3	222960.83	0.69	224564.78	99.3	60 - 125		221673.61	224660.86	222548.02
89 Y #3	1288493.40	0.51	1302847.50	98.9	60 - 125		1285860.30	1296030.00	1283589.60
115 In #3	1353580.80	0.96	1366177.60	99.1	60 - 125		1339140.30	1357158.40	1364443.40
159 Tb #3	1992782.00	0.48	2052817.90	97.1	60 - 125		1982020.00	1996075.80	2000250.40
209 Bi #3	1343486.10	0.55	1405468.50	95.6	60 - 125		1334994.80	1347743.50	1347720.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\113SMPL.D\113SMPL.D#
 Date Acquired: Aug 24 2014 11:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345317_1-a
 Misc Info: 200.8TT 1/5
 Vial Number: 2502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001186	0.001186	ug/l	148.57	100.00		3.33	6.67	0.00
11 B #3	1.577	1.577	ug/l	15.11	1800.00		4744.05	5097.48	4403.94
23 Na #1	-5.904	-5.904	ug/l	0.74	81000.00		76344.73	75320.76	75434.03
24 Mg #1	0.447	0.447	ug/l	2.43	81000.00		2196.87	2200.18	2146.86
27 Al #1	1.42	1.42	ug/l	3.17	81000.00		5714.36	5894.39	5677.69
39 K #2	-5.777	-5.777	ug/l	8.77	81000.00		10746.64	11186.96	11173.59
40 Ca #1	3.777	3.777	ug/l	1.92	81000.00		51079.56	51530.45	51273.27
47 Ti #3	-0.0146	-0.0146	ug/l	210.96	1620.00		73.34	130.02	70.00
51 V #2	0.08265	0.08265	ug/l	23.82	1800.00		394.45	460.01	504.46
52 Cr #2	0.02893	0.02893	ug/l	28.36	1800.00		403.34	412.23	456.68
55 Mn #3	0.1646	0.1646	ug/l	9.31	1800.00		4797.41	4243.94	4617.36
56 Fe #1	0.4572	0.4572	ug/l	5.17	81000.00		8525.53	8632.23	8218.69
59 Co #3	-0.0006707	-0.0006707	ug/l	77.49	1800.00		66.67	56.67	53.33
60 Ni #2	0.3091	0.3091	ug/l	6.78	1800.00		444.45	402.23	412.23
63 Cu #2	-0.04072	-0.04072	ug/l	5.58	1800.00		304.45	310.01	296.67
66 Zn #3	0.1165	0.1165	ug/l	26.64	1800.00		930.05	806.71	870.05
75 As #2	0.03747	0.03747	ug/l	17.08	100.00		30.33	26.67	27.00
78 Se #1	-0.03456	-0.03456	ug/l	29.69	100.00		14.67	9.00	11.67
88 Sr #3	0.003307	0.003307	ug/l	17.01	1800.00		250.01	226.68	240.01
95 Mo #3	0.004716	0.004716	ug/l	70.84	1800.00		146.67	126.67	130.00
107 Ag #3	0.0005338	0.0005338	ug/l	337.20	100.00		146.67	110.00	130.00
111 Cd #3	0.001907	0.001907	ug/l	106.76	100.00		9.97	6.64	16.64
118 Sn #3	0.1119	0.1119	ug/l	12.72	1800.00		1606.79	1573.45	1466.77
121 Sb #3	0.01557	0.01557	ug/l	8.58	100.00		186.67	166.67	186.67
137 Ba #3	0.01406	0.01406	ug/l	45.23	1800.00		80.00	123.34	80.00
202 Hg #3	-0.01188	-0.01188	ug/l	23.28	5.00		85.33	94.67	78.33
205 Tl #3	-0.004362	-0.004362	ug/l	21.81	20.00		106.67	66.67	63.34
208 Pb #3	-0.01463	-0.01463	ug/l	6.74	1800.00		906.71	850.04	880.04
232 Th #3	0.0672	0.0672	ug/l	9.64	#VALUE!		3133.76	3043.75	2703.67
238 U #3	0.00137	0.00137	ug/l	10.34	#VALUE!		80.00	93.34	86.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	437165.31	0.39	442436.88	98.8	60 - 125		435355.50	437364.09	438776.28
45 Sc #1	451523.69	0.56	456299.72	99.0	60 - 125		454430.38	450142.94	449997.78
45 Sc #3	726488.00	1.40	765061.25	95.0	60 - 125		714792.88	732948.13	731722.94
74 Ge #1	155746.11	0.61	153441.28	101.5	60 - 125		156832.06	155329.75	155076.52
74 Ge #2	45927.17	0.72	47804.94	96.1	60 - 125		45548.86	46077.95	46154.71
74 Ge #3	219703.56	0.91	224564.78	97.8	60 - 125		218089.17	219066.95	221954.58
89 Y #3	1277986.00	1.32	1302847.50	98.1	60 - 125		1259379.00	1282264.00	1292315.30
115 In #3	1333461.50	2.24	1366177.60	97.6	60 - 125		1305230.90	1330466.60	1364687.10
159 Tb #3	1955589.40	1.29	2052817.90	95.3	60 - 125		1930140.00	1956107.50	1980520.80
209 Bi #3	1335546.40	1.31	1405468.50	95.0	60 - 125		1315807.90	1341852.80	1348978.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\114SMPL.D\114SMPL.D#
 Date Acquired: Aug 25 2014 12:03 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345317_2-a
 Misc Info: 200.8TT 1/5
 Vial Number: 2503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.05	10.05	ug/l	0.31	100.00		19266.50	19416.69	19056.32
11 B # 3	41.32	41.32	ug/l	3.98	1800.00		64259.79	62741.31	66784.59
23 Na # 1	1060	1060	ug/l	0.20	81000.00		3854567.00	3818257.80	3799626.50
24 Mg # 1	1085	1085	ug/l	0.61	81000.00		2708344.30	2659438.80	2658602.50
27 Al # 1	1058	1058	ug/l	0.86	81000.00		3139949.00	3068027.50	3089886.00
39 K # 2	997.5	997.5	ug/l	1.08	81000.00		355957.84	360399.22	363849.56
40 Ca # 1	1082	1082	ug/l	0.59	81000.00		7355233.00	7351334.00	7362621.50
47 Ti # 3	20.52	20.52	ug/l	1.57	1620.00		22637.48	22834.37	22190.32
51 V # 2	19.88	19.88	ug/l	0.57	1800.00		53755.68	53859.22	54493.22
52 Cr # 2	20.4	20.4	ug/l	1.55	1800.00		66506.28	67747.31	67369.40
55 Mn # 3	105.9	105.9	ug/l	1.09	1800.00		2023463.80	2023382.60	2023834.40
56 Fe # 1	1095	1095	ug/l	0.61	81000.00		9675836.00	9685488.00	9690637.00
59 Co # 3	10.48	10.48	ug/l	1.10	1800.00		150899.52	152789.03	150819.05
60 Ni # 2	20.93	20.93	ug/l	1.57	1800.00		25025.82	25598.83	25862.60
63 Cu # 2	20.02	20.02	ug/l	0.66	1800.00		67138.98	66935.90	67457.90
66 Zn # 3	19.8	19.8	ug/l	0.50	1800.00		41865.01	42492.82	42329.42
75 As # 2	20.04	20.04	ug/l	2.15	100.00		6953.33	7189.09	7259.79
78 Se # 1	20.16	20.16	ug/l	1.39	100.00		5486.84	5549.86	5500.51
88 Sr # 3	19.17	19.17	ug/l	0.68	1800.00		486005.72	488180.78	486368.28
95 Mo # 3	20.35	20.35	ug/l	1.76	1800.00		80846.74	81262.27	82266.72
107 Ag # 3	10.26	10.26	ug/l	2.32	100.00		114531.45	113488.62	116511.49
111 Cd # 3	9.914	9.914	ug/l	0.57	100.00		23965.85	24039.34	23848.66
118 Sn # 3	41.26	41.26	ug/l	0.38	1800.00		314438.41	315424.91	311663.97
121 Sb # 3	10.1	10.1	ug/l	1.21	100.00		92275.56	91518.17	91920.32
137 Ba # 3	19.83	19.83	ug/l	1.45	1800.00		78983.51	80189.00	80296.34
202 Hg # 3	0.9344	0.9344	ug/l	1.86	5.00		3082.98	3067.64	3198.34
205 Tl # 3	7.944	7.944	ug/l	0.70	20.00		213938.20	216329.00	215817.27
208 Pb # 3	10.05	10.05	ug/l	0.63	1800.00		369339.41	373958.78	373159.09
232 Th # 3	10.35	10.35	ug/l	0.02	#VALUE!		410907.38	411791.66	414417.69
238 U # 3	10.13	10.13	ug/l	0.95	#VALUE!		423128.47	417503.69	419554.78

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	442637.19	0.69	442436.88	100.0	60 - 125		442166.25	445902.06	439843.22
45 Sc # 1	457078.09	0.54	456299.72	100.2	60 - 125		459668.28	456771.50	454794.47
45 Sc # 3	743345.25	0.79	765061.25	97.2	60 - 125		750142.06	739516.25	740377.50
74 Ge # 1	157049.53	0.98	153441.28	102.4	60 - 125		158804.50	156450.03	155894.03
74 Ge # 2	46734.82	1.05	47804.94	97.8	60 - 125		46667.28	46280.63	47256.56
74 Ge # 3	222783.88	1.09	224564.78	99.2	60 - 125		220025.23	223770.05	224556.34
89 Y # 3	1307086.30	0.90	1302847.50	100.3	60 - 125		1295425.90	1318981.60	1306851.40
115 In # 3	1350144.90	0.97	1366177.60	98.8	60 - 125		1351572.90	1362501.30	1336360.60
159 Tb # 3	2000742.60	1.17	2052817.90	97.5	60 - 125		1974770.10	2007529.50	2019928.10
209 Bi # 3	1332387.80	0.46	1405468.50	94.8	60 - 125		1327653.40	1330279.90	1339229.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\115SMPL.D\115SMPL.D#
 Date Acquired: Aug 25 2014 12:11 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65746-c-1-a
 Misc Info: 200.87T 1/5
 Vial Number: 2504
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003603	0.003603	ug/l	114.79	100.00		3.33	3.33	16.67
11 B #3	31.5	31.5	ug/l	0.56	1800.00		48390.49	48647.85	48133.14
23 Na #1	13130	13130	ug/l	0.48	81000.00		45543964.00	46105944.00	45604744.00
24 Mg #1	1050	1050	ug/l	0.23	81000.00		2561633.30	2576483.30	2545272.80
27 Al #1	56.57	56.57	ug/l	0.97	81000.00		164080.95	167712.22	164554.14
39 K #2	2108	2108	ug/l	1.15	81000.00		733607.69	731097.00	748247.50
40 Ca #1	8160	8160	ug/l	0.14	81000.00		54830324.00	54844184.00	54445404.00
47 Ti #3	1.389	1.389	ug/l	2.08	1620.00		1563.44	1626.78	1640.12
51 V #2	0.287	0.287	ug/l	3.14	1800.00		968.92	1026.70	1010.04
52 Cr #2	1.374	1.374	ug/l	1.34	1800.00		4800.66	4732.86	4817.33
55 Mn #3	9.36	9.36	ug/l	1.33	1800.00		177097.52	180536.36	178359.30
56 Fe #1	146.6	146.6	ug/l	0.92	81000.00		1300906.10	1286608.00	1272394.50
59 Co #3	0.07939	0.07939	ug/l	11.03	1800.00		1103.40	1340.10	1176.74
60 Ni #2	2.802	2.802	ug/l	0.61	1800.00		3382.57	3452.57	3418.12
63 Cu #2	14.1	14.1	ug/l	0.79	1800.00		46969.43	46731.05	47000.61
66 Zn #3	40.96	40.96	ug/l	1.00	1800.00		85260.63	86479.86	86194.95
75 As #2	0.1465	0.1465	ug/l	9.12	100.00		69.33	68.67	61.33
78 Se #1	0.0766	0.0766	ug/l	15.77	100.00		41.00	45.33	38.67
88 Sr #3	29.33	29.33	ug/l	1.16	1800.00		728498.94	730634.56	731770.38
95 Mo #3	1.326	1.326	ug/l	3.03	1800.00		5464.34	5400.99	5210.91
107 Ag #3	0.04886	0.04886	ug/l	17.27	100.00		606.70	766.71	616.70
111 Cd #3	0.1893	0.1893	ug/l	1.35	100.00		455.48	452.17	468.87
118 Sn #3	1.371	1.371	ug/l	1.43	1800.00		10833.72	11037.14	11153.88
121 Sb #3	0.09391	0.09391	ug/l	6.28	100.00		940.05	876.72	840.05
137 Ba #3	28.67	28.67	ug/l	0.63	1800.00		113848.70	114312.02	114405.94
202 Hg #3	0.001214	0.001214	ug/l	164.74	5.00		122.00	135.00	128.33
205 Tl #3	0.006152	0.006152	ug/l	11.91	20.00		383.35	350.02	350.02
208 Pb #3	0.5906	0.5906	ug/l	0.62	1800.00		22770.38	23097.36	22943.92
232 Th #3	0.1272	0.1272	ug/l	6.73	#VALUE!		5531.19	5397.80	4977.62
238 U #3	0.03217	0.03217	ug/l	2.50	#VALUE!		1376.77	1323.43	1360.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	429784.72	0.19	442436.88	97.1	60 - 125		428836.41	430407.97	430109.78
45 Sc #1	452152.88	0.39	456299.72	99.1	60 - 125		452474.78	453741.22	450242.63
45 Sc #3	735135.06	0.91	765061.25	96.1	60 - 125		728461.31	741809.88	735134.00
74 Ge #1	155244.38	0.78	153441.28	101.2	60 - 125		156363.09	155422.22	153947.75
74 Ge #2	46191.63	0.61	47804.94	96.6	60 - 125		45867.47	46338.69	46368.74
74 Ge #3	220928.48	0.40	224564.78	98.4	60 - 125		221198.83	219949.89	221636.73
89 Y #3	1281539.00	0.95	1302847.50	98.4	60 - 125		1295512.00	1275149.30	1273955.90
115 In #3	1335712.80	0.63	1366177.60	97.8	60 - 125		1335043.90	1327649.00	1344445.30
159 Tb #3	1975891.90	0.15	2052817.90	96.3	60 - 125		1973743.90	1979260.00	1974671.30
209 Bi #3	1321944.60	0.97	1405468.50	94.1	60 - 125		1309755.80	1320815.90	1335262.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\116SMPL.D\116SMPL.D#
 Date Acquired: Aug 25 2014 12:18 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65746-c-1-aSD
 Misc Info: 200.8TT 1/25
 Vial Number: 2505
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.00608	0.001216	ug/l	147.86	100.00		6.67	3.33	0.00
11 B #3	36.52	7.304	ug/l	2.58	1800.00		12931.22	12837.82	13341.52
23 Na #1	13440	2688	ug/l	0.77	81000.00		9410467.00	9568741.00	9481437.00
24 Mg #1	1153	230.6	ug/l	0.26	81000.00		565767.00	565683.94	567120.69
27 Al #1	58.45	11.69	ug/l	0.14	81000.00		35546.79	35596.91	35820.75
39 K #2	2177	435.4	ug/l	1.21	81000.00		162865.67	164814.67	167195.61
40 Ca #1	8470	1694	ug/l	0.86	81000.00		11492921.00	11346005.00	11438233.00
47 Ti #3	0.987	0.1974	ug/l	15.24	1620.00		283.34	340.01	346.68
51 V #2	0.3536	0.07072	ug/l	23.36	1800.00		424.45	476.68	386.67
52 Cr #2	1.3695	0.2739	ug/l	3.75	1800.00		1212.27	1278.95	1220.05
55 Mn #3	9.41	1.882	ug/l	1.10	1800.00		37475.02	37414.83	38039.42
56 Fe #1	153.8	30.76	ug/l	0.97	81000.00		272459.59	277695.94	274020.94
59 Co #3	0.0768	0.01536	ug/l	6.76	1800.00		276.68	296.68	306.68
60 Ni #2	4.059	0.8118	ug/l	1.36	1800.00		1052.26	1035.59	1033.37
63 Cu #2	14.345	2.869	ug/l	1.66	1800.00		9951.64	10227.34	9904.96
66 Zn #3	41.64	8.328	ug/l	1.11	1800.00		18056.00	18246.11	18443.00
75 As #2	0.1045	0.0209	ug/l	34.82	100.00		20.67	25.67	21.67
78 Se #1	-0.03352	-0.006704	ug/l	33.73	100.00		20.33	19.33	19.33
88 Sr #3	30.02	6.004	ug/l	0.60	1800.00		150187.05	150727.95	150825.34
95 Mo #3	1.323	0.2646	ug/l	5.74	1800.00		1203.41	1110.07	1243.41
107 Ag #3	0.028975	0.005795	ug/l	2.26	100.00		193.34	190.01	190.01
111 Cd #3	0.1911	0.03822	ug/l	6.51	100.00		103.07	103.09	93.06
118 Sn #3	1.597	0.3194	ug/l	6.13	1800.00		3083.69	3117.08	3113.72
121 Sb #3	0.07745	0.01549	ug/l	19.74	100.00		216.68	163.34	170.01
137 Ba #3	28.68	5.736	ug/l	1.16	1800.00		23279.74	23446.73	23246.42
202 Hg #3	-0.04782	-0.009564	ug/l	23.89	5.00		92.67	89.34	102.67
205 Tl #3	-0.0159	-0.00318	ug/l	29.63	20.00		83.34	133.34	120.00
208 Pb #3	0.4806	0.09612	ug/l	2.86	1800.00		4963.80	4870.45	5017.14
232 Th #3	0.1211	0.02422	ug/l	5.26	#VALUE!		1306.76	1256.77	1226.75
238 U #3	0.03257	0.006514	ug/l	11.30	#VALUE!		336.68	286.68	290.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	429825.84	0.26	442436.88	97.1	60 - 125		428670.50	430942.91	429864.16
45 Sc #1	454174.84	0.37	456299.72	99.5	60 - 125		452505.41	454116.53	455902.63
45 Sc #3	739171.81	0.68	765061.25	96.6	60 - 125		733332.56	741969.31	742213.50
74 Ge #1	158765.67	0.32	153441.28	103.5	60 - 125		158367.41	159339.13	158590.52
74 Ge #2	46826.93	0.31	47804.94	98.0	60 - 125		46663.93	46934.55	46882.32
74 Ge #3	224194.16	0.25	224564.78	99.8	60 - 125		223814.06	224836.45	223932.00
89 Y #3	1289491.90	0.41	1302847.50	99.0	60 - 125		1293077.00	1292008.40	1283390.30
115 In #3	1361958.40	0.71	1366177.60	99.7	60 - 125		1369100.90	1351021.60	1365752.50
159 Tb #3	1987078.90	0.61	2052817.90	96.8	60 - 125		1977863.80	2000825.40	1982547.60
209 Bi #3	1353950.00	0.95	1405468.50	96.3	60 - 125		1339179.40	1362866.50	1359804.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\117SMPL.D\117SMPL.D#
 Date Acquired: Aug 25 2014 12:25 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65746-c-1-aPDS
 Misc Info: 200.8TT 1/5
 Vial Number: 2506
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Repl (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.27	20.27	ug/l	0.79	100.00		37810.28	37366.08	36798.19
11 B #3	71.99	71.99	ug/l	1.57	1800.00		105457.50	106740.05	107296.80
23 Na #1	14990	14990	ug/l	0.97	81000.00		53142504.00	53008760.00	53272664.00
24 Mg #1	3117	3117	ug/l	0.89	81000.00		7733194.00	7733474.00	7751370.50
27 Al #1	265.9	265.9	ug/l	1.58	81000.00		780136.13	782828.75	792323.81
39 K #2	4097	4097	ug/l	0.94	81000.00		1421963.60	1446131.00	1444965.60
40 Ca #1	10230	10230	ug/l	0.73	81000.00		69608600.00	70032144.00	69661304.00
47 Ti #3	21.75	21.75	ug/l	4.31	1620.00		23795.66	24002.63	25173.99
51 V #2	20.36	20.36	ug/l	0.65	1800.00		55456.07	55291.10	55244.31
52 Cr #2	21.45	21.45	ug/l	0.28	1800.00		70646.84	70476.30	70852.20
55 Mn #3	217	217	ug/l	0.49	1800.00		4120286.30	4109178.30	4149990.00
56 Fe #1	2283	2283	ug/l	0.74	81000.00		20255354.00	20506500.00	20209372.00
59 Co #3	20.31	20.31	ug/l	1.25	1800.00		292908.03	288298.19	295857.31
60 Ni #2	23.38	23.38	ug/l	0.23	1800.00		28439.67	28407.33	28563.14
63 Cu #2	34.07	34.07	ug/l	0.70	1800.00		114546.20	113630.20	113868.30
66 Zn #3	58.72	58.72	ug/l	0.43	1800.00		123277.29	122995.70	124065.27
75 As #2	20.21	20.21	ug/l	0.59	100.00		7210.10	7120.06	7259.45
78 Se #1	19.87	19.87	ug/l	0.52	100.00		5447.83	5424.48	5454.16
88 Sr #3	49.71	49.71	ug/l	0.92	1800.00		1253332.40	1235093.00	1245343.50
95 Mo #3	21.83	21.83	ug/l	0.62	1800.00		86787.98	86144.95	85542.01
107 Ag #3	19.08	19.08	ug/l	1.56	100.00		208719.16	208726.17	213569.94
111 Cd #3	20.27	20.27	ug/l	1.44	100.00		47890.59	47980.84	48953.77
118 Sn #3	21.7	21.7	ug/l	0.66	1800.00		163076.91	162396.06	163733.94
121 Sb #3	20.1	20.1	ug/l	0.95	100.00		180487.94	179083.63	181626.56
137 Ba #3	48.81	48.81	ug/l	0.94	1800.00		191772.19	195727.19	193582.83
202 Hg #3	0.971	0.971	ug/l	1.24	5.00		3151.66	3246.34	3177.33
205 Tl #3	3.93	3.93	ug/l	1.26	20.00		106204.42	105180.82	104448.84
208 Pb #3	20.61	20.61	ug/l	0.31	1800.00		748859.69	751611.25	754961.31
232 Th #3	18.94	18.94	ug/l	1.05	#VALUE!		738440.75	731457.75	738252.75
238 U #3	20.27	20.27	ug/l	1.50	#VALUE!		827290.38	816200.06	817885.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Repl (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	425630.47	0.65	442436.88	96.2	60 - 125		428764.09	424673.72	423453.56
45 Sc #1	460164.56	0.76	456299.72	100.8	60 - 125		462502.47	461828.47	456162.75
45 Sc #3	757036.06	1.26	765061.25	99.0	60 - 125		760297.81	764520.31	746290.06
74 Ge #1	157318.52	0.27	153441.28	102.5	60 - 125		157505.41	157614.80	156835.34
74 Ge #2	46733.75	0.52	47804.94	97.8	60 - 125		46637.13	46554.85	47009.27
74 Ge #3	221772.47	0.08	224564.78	98.8	60 - 125		221935.31	221590.48	221791.56
89 Y #3	1288616.90	0.34	1302847.50	98.9	60 - 125		1289586.80	1292377.90	1283885.90
115 In #3	1331043.60	0.24	1366177.60	97.4	60 - 125		1331426.00	1334093.40	1327611.60
159 Tb #3	1974985.10	0.46	2052817.90	96.2	60 - 125		1964511.60	1981480.80	1978962.90
209 Bi #3	1299888.60	0.83	1405468.50	92.5	60 - 125		1288502.10	1301112.10	1310051.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\118SMPL.D\118SMPL.D#
 Date Acquired: Aug 25 2014 12:33 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65746-c-1-b ms
 Misc Info: 200.8TT 1/5
 Vial Number: 2507
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	10.05	10.05	ug/l	3.43	100.00		18876.14	18836.07	17931.94
11 B #3	70.87	70.87	ug/l	1.87	1800.00		104063.02	106737.89	104464.93
23 Na #1	13630	13630	ug/l	10.53	81000.00		48409944.00	47920460.00	48517824.00
24 Mg #1	2022	2022	ug/l	10.48	81000.00		5054132.00	4967056.00	5024340.50
27 Al #1	1079	1079	ug/l	11.12	81000.00		3229130.80	3112617.00	3186401.30
39 K #2	3071	3071	ug/l	0.13	81000.00		1063752.00	1068204.50	1072418.40
40 Ca #1	8890	8890	ug/l	10.89	81000.00		61254264.00	59635652.00	60806960.00
47 Ti #3	21.56	21.56	ug/l	0.27	1620.00		23154.77	23605.32	23705.73
51 V #2	19.96	19.96	ug/l	0.68	1800.00		53259.71	53967.26	53592.95
52 Cr #2	21.26	21.26	ug/l	0.63	1800.00		68516.72	69392.09	69697.82
55 Mn #3	112.8	112.8	ug/l	1.29	1800.00		2117849.30	2133645.80	2126389.00
56 Fe #1	1201	1201	ug/l	10.17	81000.00		10789320.00	10610160.00	10660960.00
59 Co #3	10.33	10.33	ug/l	0.29	1800.00		148634.28	146501.28	147202.89
60 Ni #2	22.92	22.92	ug/l	0.45	1800.00		27594.99	27409.16	27733.01
63 Cu #2	33.87	33.87	ug/l	0.02	1800.00		111682.99	111900.99	112405.09
66 Zn #3	58.22	58.22	ug/l	0.63	1800.00		122542.56	120871.26	120623.21
75 As #2	20.01	20.01	ug/l	0.36	100.00		7045.04	7028.70	7039.03
78 Se #1	19.79	19.79	ug/l	9.50	100.00		5421.48	5369.13	5366.47
88 Sr #3	48.27	48.27	ug/l	0.85	1800.00		1214607.50	1202611.30	1220987.10
95 Mo #3	21.36	21.36	ug/l	0.98	1800.00		84698.06	85217.04	85210.66
107 Ag #3	9.91	9.91	ug/l	0.63	100.00		109331.49	110774.24	110670.16
111 Cd #3	10.04	10.04	ug/l	1.07	100.00		23958.39	24529.00	23904.79
118 Sn #3	40.64	40.64	ug/l	1.04	1800.00		306488.38	308204.16	307309.09
121 Sb #3	9.974	9.974	ug/l	2.32	100.00		91360.49	90442.25	89035.35
137 Ba #3	47.91	47.91	ug/l	1.06	1800.00		191266.22	192294.89	191582.08
202 Hg #3	0.9271	0.9271	ug/l	1.57	5.00		3023.29	3116.98	3049.63
205 Tl #3	7.801	7.801	ug/l	0.81	20.00		210600.02	209479.70	208288.06
208 Pb #3	10.52	10.52	ug/l	0.95	1800.00		388357.22	385552.44	383077.53
232 Th #3	6.228	6.228	ug/l	1.00	#VALUE!		242732.52	246458.83	246525.09
238 U #3	10.16	10.16	ug/l	0.14	#VALUE!		416479.75	416693.44	415864.16

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	426507.88	0.59	442436.88	96.4	60 - 125		425981.03	424283.50	429259.09
45 Sc #1	462862.47	10.03	456299.72	101.4	60 - 125		457081.78	511920.50	419585.13
45 Sc #3	737172.63	1.05	765061.25	96.4	60 - 125		728702.69	738928.13	743887.19
74 Ge #1	157235.13	9.46	153441.28	102.5	60 - 125		157746.36	171855.08	142103.97
74 Ge #2	46171.94	0.33	47804.94	96.6	60 - 125		46050.20	46122.56	46343.07
74 Ge #3	219852.73	0.92	224564.78	97.9	60 - 125		221778.75	217754.08	220025.41
89 Y #3	1293087.50	0.23	1302847.50	99.3	60 - 125		1289596.00	1294893.30	1294773.40
115 In #3	1342460.50	1.30	1366177.60	98.3	60 - 125		1323311.90	1357648.10	1346421.50
159 Tb #3	1981668.10	0.26	2052817.90	96.5	60 - 125		1976338.90	1982122.60	1986542.60
209 Bi #3	1315882.80	0.24	1405468.50	93.6	60 - 125		1317103.40	1318233.10	1312311.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\119SMPL.D\119SMPL.D#
 Date Acquired: Aug 25 2014 12:40 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65746-c-1-c msd
 Misc Info: 200.8TT 1/5
 Vial Number: 2508
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	10.16	10.16	ug/l	1.57	100.00		18542.46	18345.65	18742.70
11 B #3	72.03	72.03	ug/l	1.60	1800.00		105001.35	104750.09	107041.08
23 Na #1	13830	13830	ug/l	0.79	81000.00		47768824.00	48095604.00	48165756.00
24 Mg #1	2072	2072	ug/l	0.45	81000.00		5036086.50	5009571.00	5063004.00
27 Al #1	1102	1102	ug/l	0.60	81000.00		3171217.30	3182101.50	3185749.50
39 K #2	3065	3065	ug/l	0.95	81000.00		1038264.70	1076414.30	1061472.80
40 Ca #1	9024	9024	ug/l	0.44	81000.00		60214224.00	60070644.00	60524864.00
47 Ti #3	21.58	21.58	ug/l	1.13	1620.00		23298.37	23508.56	23044.57
51 V #2	20.19	20.19	ug/l	1.47	1800.00		53256.38	54003.12	54267.12
52 Cr #2	21.58	21.58	ug/l	1.10	1800.00		68675.05	70421.59	70125.95
55 Mn #3	114.2	114.2	ug/l	0.89	1800.00		2133568.00	2141151.00	2134860.00
56 Fe #1	1231	1231	ug/l	0.69	81000.00		10694447.00	10697012.00	10803467.00
59 Co #3	10.42	10.42	ug/l	0.74	1800.00		146639.56	148604.53	147818.36
60 Ni #2	23.22	23.22	ug/l	1.28	1800.00		27637.32	27813.08	27781.96
63 Cu #2	34.35	34.35	ug/l	1.12	1800.00		112070.82	113323.91	112996.35
66 Zn #3	57.93	57.93	ug/l	0.56	1800.00		119508.91	119670.12	120395.40
75 As #2	20.28	20.28	ug/l	1.80	100.00		6891.97	7196.09	7167.08
78 Se #1	20.07	20.07	ug/l	0.49	100.00		5456.49	5422.15	5382.47
88 Sr #3	49.02	49.02	ug/l	0.72	1800.00		1218598.40	1218062.80	1226137.00
95 Mo #3	21.85	21.85	ug/l	0.82	1800.00		85605.36	85822.99	85877.52
107 Ag #3	9.525	9.525	ug/l	0.72	100.00		104311.90	104348.62	104932.17
111 Cd #3	10.36	10.36	ug/l	1.78	100.00		24769.26	24462.06	24392.08
118 Sn #3	41.97	41.97	ug/l	1.10	1800.00		313628.78	310235.66	315401.41
121 Sb #3	10.15	10.15	ug/l	1.34	100.00		90713.52	91001.85	90134.31
137 Ba #3	48.57	48.57	ug/l	0.94	1800.00		191803.08	191050.94	192226.09
202 Hg #3	0.9509	0.9509	ug/l	0.72	5.00		3096.31	3154.66	3122.32
205 Tl #3	7.933	7.933	ug/l	0.31	20.00		211649.16	212498.25	211911.89
208 Pb #3	10.63	10.63	ug/l	0.45	1800.00		386220.97	387222.97	391124.09
232 Th #3	6.611	6.611	ug/l	0.37	#VALUE!		258338.95	258815.78	257613.92
238 U #3	10.33	10.33	ug/l	0.57	#VALUE!		418858.09	420590.50	420649.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	421812.69	0.58	442436.88	95.3	60 - 125		420236.81	424605.94	420595.31
45 Sc #1	450461.72	0.41	456299.72	98.7	60 - 125		452214.72	448503.22	450667.25
45 Sc #3	729904.63	0.64	765061.25	95.4	60 - 125		724607.25	733343.75	731762.88
74 Ge #1	155090.63	0.40	153441.28	101.1	60 - 125		155792.70	154602.14	154876.98
74 Ge #2	45859.29	1.51	47804.94	95.9	60 - 125		45384.03	46656.08	45537.77
74 Ge #3	218255.44	0.91	224564.78	97.2	60 - 125		216286.84	218239.22	220240.25
89 Y #3	1281770.90	0.85	1302847.50	98.4	60 - 125		1269296.60	1286928.80	1289087.50
115 In #3	1324078.00	0.98	1366177.60	96.9	60 - 125		1310701.50	1324840.40	1336692.10
159 Tb #3	1972424.80	0.40	2052817.90	96.1	60 - 125		1963419.40	1975895.40	1977959.10
209 Bi #3	1305719.90	0.33	1405468.50	92.9	60 - 125		1310626.00	1303408.40	1303125.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\120_QCS.D\120_QCS.D#
 Date Acquired: Aug 25 2014 12:47 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.11 ug/l	2.08	0.10 69.5 - 130	
11 B	20.96 ug/l	1.22	20.00 69.5 - 130	
23 Na	50.05 ug/l	0.25	50.00 69.5 - 130	
24 Mg	57.67 ug/l	0.43	50.00 69.5 - 130	
27 Al	11.53 ug/l	0.85	10.00 69.5 - 130	
39 K	42.65 ug/l	0.35	50.00 69.5 - 130	
40 Ca	57.54 ug/l	0.36	50.00 69.5 - 130	
47 Ti	0.98 ug/l	1.83	1.00 69.5 - 130	
51 V	0.99 ug/l	1.94	1.00 69.5 - 130	
52 Cr	1.00 ug/l	1.29	1.00 69.5 - 130	
55 Mn	1.07 ug/l	1.82	1.00 69.5 - 130	
56 Fe	23.67 ug/l	0.95	20.00 69.5 - 130	
59 Co	0.10 ug/l	4.52	0.10 69.5 - 130	
60 Ni	1.04 ug/l	6.71	1.00 69.5 - 130	
63 Cu	0.95 ug/l	0.24	1.00 69.5 - 130	
66 Zn	4.02 ug/l	2.69	4.00 69.5 - 130	
75 As	0.48 ug/l	7.07	0.50 69.5 - 130	
78 Se	0.48 ug/l	2.44	0.50 69.5 - 130	
88 Sr	0.19 ug/l	2.71	0.20 69.5 - 130	
95 Mo	0.96 ug/l	1.49	1.00 69.5 - 130	
107 Ag	0.20 ug/l	1.35	0.20 69.5 - 130	
111 Cd	0.10 ug/l	9.05	0.10 69.5 - 130	
118 Sn	1.11 ug/l	2.85	1.00 69.5 - 130	
121 Sb	0.99 ug/l	1.54	1.00 69.5 - 130	
137 Ba	0.99 ug/l	1.60	1.00 69.5 - 130	
202 Hg	0.15 ug/l	7.92	0.16 69.5 - 130	
205 Tl	0.21 ug/l	3.49	0.20 69.5 - 130	
208 Pb	0.28 ug/l	2.67	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	426425.22	0.23	442436.88	96.4	60 - 125		
45 Sc	444321.75	0.03	456299.72	97.4	60 - 125		
45 Sc	727311.06	0.78	765061.25	95.1	60 - 125		
74 Ge	154792.03	0.62	153441.28	100.9	60 - 125		
74 Ge	46248.07	0.16	47804.94	96.7	60 - 125		
74 Ge	220447.67	0.16	224564.78	98.2	60 - 125		
89 Y	1295702.10	0.45	1302847.50	99.5	60 - 125		
115 In	1348550.80	0.67	1366177.60	98.7	60 - 125		
159 Tb	1972727.60	0.61	2052817.90	96.1	60 - 125		
209 Bi	1334231.50	0.21	1405468.50	94.9	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\121_CCV.D\121_CCV.D#
 Date Acquired: Aug 25 2014 12:55 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.08 ug/l	1.04	50.00	89.5 - 110		90256.39	90862.73	90093.21
11 B	99.67 ug/l	2.40	100.00	89.5 - 110		141261.06	144467.72	145306.52
23 Na	5144 ug/l	0.07	5000.00	89.5 - 110		18018194.00	17975052.00	17842612.00
24 Mg	5150 ug/l	0.23	5000.00	89.5 - 110		12598581.00	12521471.00	12481266.00
27 Al	520.2 ug/l	0.51	500.00	89.5 - 110		1510807.40	1498313.60	1503556.40
39 K	4877 ug/l	1.36	5000.00	89.5 - 110		1671614.50	1691646.60	1722599.40
40 Ca	5182 ug/l	0.64	5000.00	89.5 - 110		34537728.00	34811380.00	34672120.00
47 Ti	51.26 ug/l	0.67	50.00	89.5 - 110		54937.24	55408.79	54860.59
51 V	49.54 ug/l	0.37	50.00	89.5 - 110		132139.91	133614.20	133821.31
52 Cr	49.83 ug/l	0.79	50.00	89.5 - 110		162724.42	161845.38	162550.34
55 Mn	506 ug/l	0.97	500.00	89.5 - 110		9525160.00	9572847.00	9588232.00
56 Fe	5352 ug/l	0.53	5000.00	89.5 - 110		47016944.00	46500368.00	46618784.00
59 Co	49.69 ug/l	0.82	50.00	89.5 - 110		709743.63	711005.69	712318.63
60 Ni	50.81 ug/l	0.14	50.00	89.5 - 110		60998.67	61524.83	61430.07
63 Cu	49.68 ug/l	0.42	50.00	89.5 - 110		163794.31	164852.55	165514.97
66 Zn	49.19 ug/l	1.00	50.00	89.5 - 110		102400.91	103389.75	102950.55
75 As	50.81 ug/l	0.26	50.00	89.5 - 110		17795.65	17983.16	17984.50
78 Se	51.28 ug/l	1.18	50.00	89.5 - 110		13948.34	14084.45	13824.59
88 Sr	49.73 ug/l	0.21	50.00	89.5 - 110		1232479.60	1232929.40	1229406.50
95 Mo	50.1 ug/l	0.65	50.00	89.5 - 110		198191.11	197523.38	199330.94
107 Ag	48.7 ug/l	0.56	50.00	89.5 - 110		538883.06	538266.13	539776.44
111 Cd	49.62 ug/l	0.60	50.00	89.5 - 110		117949.06	119640.34	118307.38
118 Sn	49.92 ug/l	0.29	50.00	89.5 - 110		374254.06	377014.56	375928.94
121 Sb	49.12 ug/l	0.85	50.00	89.5 - 110		443080.81	444389.41	440135.19
137 Ba	49.41 ug/l	0.53	50.00	89.5 - 110		196110.84	198049.03	196360.17
202 Hg	2.511 ug/l	0.37	2.50	89.5 - 110		8072.72	8130.10	8069.39
205 Tl	9.748 ug/l	0.26	10.00	89.5 - 110		260688.75	263286.53	261915.95
208 Pb	48.85 ug/l	0.05	50.00	89.5 - 110		1782532.50	1790653.10	1791321.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	417364.97	0.88	442436.88	94.3	60 - 125		421543.69	415969.84	414581.34
45 Sc	451131.28	0.44	456299.72	98.9	60 - 125		452651.84	451844.91	448897.06
45 Sc	728685.00	0.28	765061.25	95.2	60 - 125		726782.13	728387.69	730885.25
74 Ge	156649.72	0.61	153441.28	102.1	60 - 125		157741.89	155997.28	156210.00
74 Ge	46356.06	0.51	47804.94	97.0	60 - 125		46106.90	46581.45	46379.81
74 Ge	220485.72	0.64	224564.78	98.2	60 - 125		221914.16	220435.48	219107.52
89 Y	1274557.10	0.37	1302847.50	97.8	60 - 125		1277167.60	1277375.60	1269127.90
115 In	1336354.80	0.57	1366177.60	97.8	60 - 125		1327599.60	1340245.90	1341218.90
159 Tb	1983656.00	0.30	2052817.90	96.6	60 - 125		1976903.50	1987620.40	1986443.80
209 Bi	1289744.10	0.91	1405468.50	91.8	60 - 125		1276172.80	1296059.90	1296999.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\122_CCB.D\122_CCB.D#
 Date Acquired: Aug 25 2014 01:02 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0006564	0.0006564	ug/l	162.86	#VALUE!		3.33	3.33	0.00
11 B #3	2.017	2.017	ug/l	4.12	#VALUE!		5014.11	5164.14	5230.83
23 Na #1	-6.385	-6.385	ug/l	6.96	#VALUE!		69910.04	71830.42	72078.10
24 Mg #1	0.1612	0.1612	ug/l	8.57	#VALUE!		1473.42	1416.76	1400.09
27 Al #1	-0.06817	-0.06817	ug/l	60.03	#VALUE!		1540.11	1320.08	1353.41
39 K #2	-8.299	-8.299	ug/l	8.00	#VALUE!		9866.20	10293.08	9992.95
40 Ca #1	0.1685	0.1685	ug/l	37.23	#VALUE!		26359.08	25724.70	26338.78
47 Ti #3	-0.06555	-0.06555	ug/l	27.81	#VALUE!		56.67	20.00	30.00
51 V #2	-0.0006081	-0.0006081	ug/l	546.29	#VALUE!		228.89	235.56	221.11
52 Cr #2	-0.0204	-0.0204	ug/l	7.49	#VALUE!		258.89	266.67	260.00
55 Mn #3	0.01284	0.01284	ug/l	15.30	#VALUE!		1630.12	1673.46	1710.13
56 Fe #1	0.6717	0.6717	ug/l	2.48	#VALUE!		10073.01	10039.66	9732.79
59 Co #3	0.001441	0.001441	ug/l	90.42	#VALUE!		100.00	66.67	96.67
60 Ni #2	-0.01466	-0.01466	ug/l	17.19	#VALUE!		35.56	30.00	32.22
63 Cu #2	-0.07039	-0.07039	ug/l	6.30	#VALUE!		203.34	188.89	220.00
66 Zn #3	-0.1299	-0.1299	ug/l	4.66	#VALUE!		360.01	360.02	340.01
75 As #2	1.508E-005	1.508E-005	ug/l	73011.00	#VALUE!		12.33	12.67	19.33
78 Se #1	-0.02233	-0.02233	ug/l	24.65	#VALUE!		13.00	15.67	15.33
88 Sr #3	0.001748	0.001748	ug/l	38.93	#VALUE!		216.68	193.34	183.34
95 Mo #3	0.03216	0.03216	ug/l	33.21	#VALUE!		286.68	223.34	210.01
107 Ag #3	-0.002497	-0.002497	ug/l	34.69	#VALUE!		100.00	100.00	83.34
111 Cd #3	0.002922	0.002922	ug/l	49.14	#VALUE!		13.27	9.95	16.62
118 Sn #3	0.1084	0.1084	ug/l	8.49	#VALUE!		1563.46	1523.44	1430.11
121 Sb #3	0.02204	0.02204	ug/l	18.00	#VALUE!		206.67	276.68	223.34
137 Ba #3	0.002469	0.002469	ug/l	230.98	#VALUE!		66.67	23.33	53.34
202 Hg #3	0.009402	0.009402	ug/l	42.16	#VALUE!		153.67	162.67	139.00
205 Tl #3	0.0005419	0.0005419	ug/l	228.09	#VALUE!		246.68	193.34	183.34
208 Pb #3	-0.000934	-0.000934	ug/l	3993.60	#VALUE!		613.36	2887.98	576.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	415675.53	0.17	442436.88	94.0	60 - 125		416064.00	416103.91	414858.75
45 Sc #1	434738.88	0.50	456299.72	95.3	60 - 125		436597.13	435241.31	432378.22
45 Sc #3	707369.00	0.91	765061.25	92.5	60 - 125		706348.69	701469.88	714288.50
74 Ge #1	151551.11	0.17	153441.28	98.8	60 - 125		151507.69	151823.92	151321.73
74 Ge #2	45376.23	0.94	47804.94	94.9	60 - 125		44984.16	45311.62	45832.89
74 Ge #3	216590.02	0.24	224564.78	96.4	60 - 125		216220.69	216373.78	217175.55
89 Y #3	1261916.40	0.38	1302847.50	96.9	60 - 125		1266085.00	1256764.80	1262899.40
115 In #3	1317531.80	0.53	1366177.60	96.4	60 - 125		1312709.60	1325575.00	1314310.80
159 Tb #3	1943690.00	0.77	2052817.90	94.7	60 - 125		1959780.00	1930158.30	1941131.60
209 Bi #3	1320532.50	0.36	1405468.50	94.0	60 - 125		1316005.90	1325417.90	1320173.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\123SMPL.D\123SMPL.D#
 Date Acquired: Aug 25 2014 01:10 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344679_1-a
 Misc Info: 200.8TT 1/5
 Vial Number: 2509
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006257	0.0006257	ug/l	166.69	100.00		0.00	3.33	3.33
11 B # 3	1.785	1.785	ug/l	9.53	1800.00		5087.46	4657.34	5040.78
23 Na # 1	-4.031	-4.031	ug/l	4.30	81000.00		79846.40	79610.81	79571.48
24 Mg # 1	1.1	1.1	ug/l	4.52	81000.00		3767.14	3610.43	3587.09
27 Al # 1	14.35	14.35	ug/l	1.38	81000.00		42060.17	41979.71	41435.29
39 K # 2	-5.333	-5.333	ug/l	16.92	81000.00		10923.35	11326.97	10836.74
40 Ca # 1	15.17	15.17	ug/l	0.24	81000.00		122970.16	123403.50	124422.42
47 Ti # 3	-0.00791	-0.00791	ug/l	323.26	1620.00		96.67	123.34	70.00
51 V # 2	0.09211	0.09211	ug/l	6.78	1800.00		482.23	456.68	474.46
52 Cr # 2	0.04282	0.04282	ug/l	27.23	1800.00		434.45	505.57	446.68
55 Mn # 3	0.2064	0.2064	ug/l	2.60	1800.00		5187.55	5354.26	5284.24
56 Fe # 1	1.159	1.159	ug/l	1.11	81000.00		13938.91	14169.05	14309.20
59 Co # 3	0.0008782	0.0008782	ug/l	59.83	1800.00		80.00	86.67	73.34
60 Ni # 2	0.302	0.302	ug/l	1.10	1800.00		400.01	402.23	414.45
63 Cu # 2	0.1754	0.1754	ug/l	11.19	1800.00		1025.59	1030.04	935.59
66 Zn # 3	1.436	1.436	ug/l	4.65	1800.00		3467.10	3693.80	3520.45
75 As # 2	0.05091	0.05091	ug/l	17.79	100.00		35.33	31.00	30.33
78 Se # 1	-0.03649	-0.03649	ug/l	30.64	100.00		13.33	7.67	12.00
88 Sr # 3	0.01866	0.01866	ug/l	6.31	1800.00		626.70	626.70	583.36
95 Mo # 3	-0.0004288	-0.0004288	ug/l	1129.20	1800.00		126.67	93.34	120.00
107 Ag # 3	-0.002026	-0.002026	ug/l	69.15	100.00		90.00	93.34	116.67
111 Cd # 3	0.003867	0.003867	ug/l	92.99	100.00		23.31	6.65	16.64
118 Sn # 3	0.165	0.165	ug/l	4.59	1800.00		1986.84	1940.18	1876.83
121 Sb # 3	0.0116	0.0116	ug/l	16.04	100.00		160.01	130.00	140.00
137 Ba # 3	0.06232	0.06232	ug/l	5.98	1800.00		283.34	303.35	266.68
202 Hg # 3	-0.008306	-0.008306	ug/l	36.50	5.00		106.34	93.67	90.33
205 Tl # 3	-0.003426	-0.003426	ug/l	14.68	20.00		116.67	90.00	103.34
208 Pb # 3	-0.01156	-0.01156	ug/l	7.68	1800.00		966.72	1006.72	980.04
232 Th # 3	0.09654	0.09654	ug/l	3.25	#VALUE!		4134.01	4077.34	3984.00
238 U # 3	0.001704	0.001704	ug/l	17.67	#VALUE!		93.34	113.34	90.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	426047.41	0.28	442436.88	96.3	60 - 125		424725.44	426990.78	426425.97
45 Sc # 1	437653.69	0.55	456299.72	95.9	60 - 125		435129.72	437891.97	439939.50
45 Sc # 3	716162.25	0.45	765061.25	93.6	60 - 125		713759.50	714949.25	719778.00
74 Ge # 1	152291.17	0.30	153441.28	99.3	60 - 125		152096.94	151971.45	152805.11
74 Ge # 2	45285.65	1.26	47804.94	94.7	60 - 125		44692.31	45339.48	45825.17
74 Ge # 3	217093.22	1.04	224564.78	96.7	60 - 125		215972.75	215622.58	219684.30
89 Y # 3	1261879.80	0.70	1302847.50	96.9	60 - 125		1261211.30	1253344.00	1271084.00
115 In # 3	1324234.00	1.38	1366177.60	96.9	60 - 125		1315986.50	1345176.00	1311539.40
159 Tb # 3	1945797.30	1.83	2052817.90	94.8	60 - 125		1932155.80	1919078.80	1986157.50
209 Bi # 3	1313797.10	1.25	1405468.50	93.5	60 - 125		1294983.90	1320772.80	1325634.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\124SMPL.D\124SMPL.D#
 Date Acquired: Aug 25 2014 01:17 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-344679_2-a
 Misc Info: 200.8TT 1/5
 Vial Number: 2510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babha.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10.54	10.54	ug/l	1.87	100.00		19319.91	19763.70	19870.42
11 B # 3	43.16	43.16	ug/l	2.75	1800.00		63931.39	66138.63	66807.83
23 Na # 1	1093	1093	ug/l	0.59	81000.00		3807330.00	3879048.30	3844678.30
24 Mg # 1	1110	1110	ug/l	0.99	81000.00		2651084.80	2655918.00	2701161.80
27 Al # 1	1086	1086	ug/l	0.83	81000.00		3059847.80	3128440.00	3117974.00
39 K # 2	1051	1051	ug/l	3.22	81000.00		355918.31	360627.59	368248.75
40 Ca # 1	1138	1138	ug/l	1.17	81000.00		7452016.50	7528571.50	7651370.00
47 Ti # 3	20.87	20.87	ug/l	0.60	1620.00		22370.53	22353.81	22594.08
51 V # 2	21.01	21.01	ug/l	3.69	1800.00		53664.31	54888.81	54930.03
52 Cr # 2	21.38	21.38	ug/l	4.07	1800.00		66112.95	68021.70	67489.87
55 Mn # 3	110.5	110.5	ug/l	0.63	1800.00		2049979.80	2055924.10	2044499.10
56 Fe # 1	1129	1129	ug/l	0.36	81000.00		9736207.00	9737119.00	9753772.00
59 Co # 3	10.83	10.83	ug/l	1.02	1800.00		151637.73	151903.88	153069.95
60 Ni # 2	22.35	22.35	ug/l	3.84	1800.00		25526.52	26204.15	26227.53
63 Cu # 2	21.25	21.25	ug/l	2.90	1800.00		67824.91	68047.75	68265.16
66 Zn # 3	22.64	22.64	ug/l	2.98	1800.00		45777.74	46673.44	48020.15
75 As # 2	21.19	21.19	ug/l	4.43	100.00		7054.71	7313.47	7229.10
78 Se # 1	20.73	20.73	ug/l	1.81	100.00		5640.89	5464.50	5521.18
88 Sr # 3	19.91	19.91	ug/l	1.36	1800.00		493545.41	493319.25	492796.72
95 Mo # 3	20.78	20.78	ug/l	0.88	1800.00		82417.31	81429.43	82122.50
107 Ag # 3	10.56	10.56	ug/l	1.20	100.00		115984.02	117373.70	115897.72
111 Cd # 3	10.36	10.36	ug/l	0.61	100.00		24446.28	24763.57	24806.79
118 Sn # 3	42.97	42.97	ug/l	1.01	1800.00		322620.84	322582.41	320853.38
121 Sb # 3	10.41	10.41	ug/l	1.02	100.00		93274.37	93746.76	93005.44
137 Ba # 3	20.42	20.42	ug/l	0.37	1800.00		80728.49	80986.23	81320.88
202 Hg # 3	0.9427	0.9427	ug/l	2.47	5.00		3147.32	3090.64	3046.96
205 Tl # 3	8.215	8.215	ug/l	0.22	20.00		217042.66	219840.25	221098.53
208 Pb # 3	10.45	10.45	ug/l	0.67	1800.00		379523.47	383189.59	380918.44
232 Th # 3	10.77	10.77	ug/l	0.21	#VALUE!		416156.53	420583.34	425302.03
238 U # 3	10.52	10.52	ug/l	1.23	#VALUE!		427725.16	427880.00	427533.47

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	431151.22	0.85	442436.88	97.4	60 - 125		431294.06	434758.94	427400.63
45 Sc # 1	445753.22	0.37	456299.72	97.7	60 - 125		443959.44	447166.09	446134.16
45 Sc # 3	727293.94	0.55	765061.25	95.1	60 - 125		722675.00	729572.94	729633.94
74 Ge # 1	153548.13	0.24	153441.28	100.1	60 - 125		153359.47	153975.56	153309.31
74 Ge # 2	44637.21	2.81	47804.94	93.4	60 - 125		45357.80	43187.66	45366.16
74 Ge # 3	216437.61	0.60	224564.78	96.4	60 - 125		217921.14	215859.17	215532.55
89 Y # 3	1274573.40	1.29	1302847.50	97.8	60 - 125		1264228.90	1265916.50	1293575.00
115 In # 3	1330312.80	0.70	1366177.60	97.4	60 - 125		1323993.10	1325935.30	1341010.30
159 Tb # 3	1970397.60	0.75	2052817.90	96.0	60 - 125		1954937.90	1972083.90	1984171.40
209 Bi # 3	1306339.60	1.21	1405468.50	92.9	60 - 125		1292294.00	1303232.90	1323492.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\125SMPL.D\125SMPL.D#
 Date Acquired: Aug 25 2014 01:24 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-2-d
 Misc Info: 200.8TT 1/5
 Vial Number: 2511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001278	0.001278	ug/l	0.74	100.00		3.33	3.33	3.33
11 B #3	68.16	68.16	ug/l	0.52	1800.00		97945.09	98092.21	99330.65
23 Na #1	22590	22590	ug/l	0.56	81000.00		75840984.00	76051920.00	76230640.00
24 Mg #1	906.8	906.8	ug/l	0.10	81000.00		2145155.80	2141202.30	2130991.00
27 Al #1	41.53	41.53	ug/l	0.92	81000.00		117570.83	119062.91	116876.82
39 K #2	2905	2905	ug/l	1.26	81000.00		964053.81	996847.88	1004143.20
40 Ca #1	3391	3391	ug/l	0.36	81000.00		22128802.00	21998564.00	21837548.00
47 Ti #3	0.2089	0.2089	ug/l	11.22	1620.00		330.01	346.68	296.68
51 V #2	0.2004	0.2004	ug/l	8.37	1800.00		736.69	712.24	810.03
52 Cr #2	0.09813	0.09813	ug/l	8.71	1800.00		646.68	647.80	612.24
55 Mn #3	5.082	5.082	ug/l	1.23	1800.00		93899.66	94817.30	94827.66
56 Fe #1	15.79	15.79	ug/l	0.39	81000.00		137656.33	138227.77	137545.19
59 Co #3	0.06488	0.06488	ug/l	12.34	1800.00		866.71	946.72	1086.74
60 Ni #2	0.6914	0.6914	ug/l	5.79	1800.00		866.69	897.81	818.91
63 Cu #2	3.285	3.285	ug/l	0.81	1800.00		10817.70	10963.33	11241.28
66 Zn #3	9.511	9.511	ug/l	1.30	1800.00		20154.85	19594.22	19610.88
75 As #2	0.1164	0.1164	ug/l	15.50	100.00		55.67	59.67	48.33
78 Se #1	-0.00201	-0.00201	ug/l	204.03	100.00		18.67	20.67	20.33
88 Sr #3	22.98	22.98	ug/l	0.25	1800.00		562077.00	561073.50	558466.00
95 Mo #3	0.9542	0.9542	ug/l	1.85	1800.00		3883.87	3770.50	3827.19
107 Ag #3	-0.002273	-0.002273	ug/l	32.87	100.00		90.00	93.34	106.67
111 Cd #3	0.004967	0.004967	ug/l	60.10	100.00		25.81	12.50	15.83
118 Sn #3	0.135	0.135	ug/l	8.30	1800.00		1760.14	1713.46	1620.12
121 Sb #3	0.08372	0.08372	ug/l	2.28	100.00		786.70	760.04	796.71
137 Ba #3	5.918	5.918	ug/l	0.46	1800.00		23129.62	23249.81	23273.14
202 Hg #3	-0.01159	-0.01159	ug/l	13.98	5.00		87.67	81.33	90.00
205 Tl #3	0.006072	0.006072	ug/l	35.01	20.00		406.69	300.01	350.01
208 Pb #3	0.1911	0.1911	ug/l	3.22	1800.00		7931.04	8461.16	8301.14
232 Th #3	0.1583	0.1583	ug/l	6.71	#VALUE!		6691.68	6278.17	5924.67
238 U #3	0.005808	0.005808	ug/l	16.54	#VALUE!		216.68	266.68	293.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	415077.84	0.51	442436.88	93.8	60 - 125		412732.19	415729.25	416772.06
45 Sc #1	437060.75	0.31	456299.72	95.8	60 - 125		438426.31	437008.00	435747.97
45 Sc #3	714352.75	0.49	765061.25	93.4	60 - 125		711398.13	718219.56	713440.63
74 Ge #1	150652.83	0.65	153441.28	98.2	60 - 125		150767.33	151576.17	149615.00
74 Ge #2	45135.23	1.18	47804.94	94.4	60 - 125		44645.51	45059.90	45700.29
74 Ge #3	213776.11	0.78	224564.78	95.2	60 - 125		214955.52	211880.39	214492.45
89 Y #3	1255152.90	0.58	1302847.50	96.3	60 - 125		1261971.60	1255930.60	1247556.50
115 In #3	1314132.90	0.69	1366177.60	96.2	60 - 125		1306736.60	1311418.50	1324243.50
159 Tb #3	1940048.10	0.74	2052817.90	94.5	60 - 125		1928215.80	1956118.80	1935810.00
209 Bi #3	1274721.80	0.45	1405468.50	90.7	60 - 125		1268460.60	1279786.80	1275917.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\126SMPL.D\126SMPL.D#
 Date Acquired: Aug 25 2014 01:32 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-2-dSD
 Misc Info: 200.8TT 1/25
 Vial Number: 2512
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001267	0.001267	ug/l	145.70	100.00		3.33	6.67	0.00
11 B # 3	14.26	14.26	ug/l	1.25	1800.00		22663.61	22243.11	22446.71
23 Na # 1	4474	4474	ug/l	0.89	81000.00		15286331.00	15005743.00	15033876.00
24 Mg # 1	190.9	190.9	ug/l	0.77	81000.00		452055.94	451229.56	447872.81
27 Al # 1	8.94	8.94	ug/l	1.35	81000.00		26812.59	26655.78	26261.98
39 K # 2	561.2	561.2	ug/l	0.52	81000.00		202543.06	203642.75	206013.38
40 Ca # 1	679.5	679.5	ug/l	0.84	81000.00		4415683.50	4438956.00	4402253.00
47 Ti # 3	0.008742	0.008742	ug/l	338.14	1620.00		120.00	140.00	80.00
51 V # 2	0.05547	0.05547	ug/l	17.25	1800.00		361.12	364.45	412.23
52 Cr # 2	0.007525	0.007525	ug/l	79.83	1800.00		343.34	373.34	344.45
55 Mn # 3	1.027	1.027	ug/l	1.61	1800.00		20922.16	20168.04	20715.35
56 Fe # 1	3.358	3.358	ug/l	1.49	81000.00		32772.79	32893.14	32298.80
59 Co # 3	0.01172	0.01172	ug/l	11.60	1800.00		253.34	213.34	233.34
60 Ni # 2	0.1764	0.1764	ug/l	3.12	1800.00		262.23	251.12	267.78
63 Cu # 2	0.5975	0.5975	ug/l	0.59	1800.00		2372.39	2382.40	2403.51
66 Zn # 3	1.854	1.854	ug/l	1.37	1800.00		4497.33	4370.64	4413.99
75 As # 2	0.02014	0.02014	ug/l	24.39	100.00		20.00	22.00	23.67
78 Se # 1	-0.03402	-0.03402	ug/l	29.69	100.00		13.00	13.67	8.67
88 Sr # 3	4.505	4.505	ug/l	0.69	1800.00		110341.38	110623.20	109694.05
95 Mo # 3	0.1747	0.1747	ug/l	9.54	1800.00		720.04	823.38	853.38
107 Ag # 3	-0.006177	-0.006177	ug/l	31.41	100.00		66.67	66.67	30.00
111 Cd # 3	9.55E-006	9.55E-006	ug/l	50807.00	100.00		-0.16	19.82	-0.19
118 Sn # 3	0.09248	0.09248	ug/l	4.55	1800.00		1416.76	1386.76	1373.43
121 Sb # 3	0.01759	0.01759	ug/l	19.68	100.00		173.34	233.34	183.34
137 Ba # 3	1.17	1.17	ug/l	2.33	1800.00		4490.72	4764.16	4690.78
202 Hg # 3	-0.007732	-0.007732	ug/l	69.61	5.00		79.33	109.67	106.67
205 Tl # 3	-0.002156	-0.002156	ug/l	47.26	20.00		110.00	136.67	163.34
208 Pb # 3	0.01728	0.01728	ug/l	5.13	1800.00		2033.45	1983.44	2036.80
232 Th # 3	0.03254	0.03254	ug/l	4.98	#VALUE!		1606.80	1560.12	1490.12
238 U # 3	0.001351	0.001351	ug/l	12.77	#VALUE!		90.00	86.67	76.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	415943.31	0.72	442436.88	94.0	60 - 125		417889.47	417427.97	412512.44
45 Sc # 1	436318.06	0.42	456299.72	95.6	60 - 125		437198.97	434223.94	437531.31
45 Sc # 3	710862.00	0.85	765061.25	92.9	60 - 125		704289.25	712022.69	716274.13
74 Ge # 1	153925.95	0.19	153441.28	100.3	60 - 125		154049.80	154132.72	153595.34
74 Ge # 2	45766.47	0.87	47804.94	95.7	60 - 125		45643.54	45444.20	46211.68
74 Ge # 3	217613.94	0.42	224564.78	96.9	60 - 125		218105.84	216556.38	218179.61
89 Y # 3	1257679.80	0.37	1302847.50	96.5	60 - 125		1261758.50	1252607.60	1258673.00
115 In # 3	1321830.50	0.75	1366177.60	96.8	60 - 125		1311065.80	1330469.90	1323956.00
159 Tb # 3	1944226.40	0.13	2052817.90	94.7	60 - 125		1945046.30	1946204.50	1941428.50
209 Bi # 3	1313454.00	0.89	1405468.50	93.5	60 - 125		1303151.50	1326176.80	1311034.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\127SMPL.D\127SMPL.D#
 Date Acquired: Aug 25 2014 01:39 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-2-dPDS
 Misc Info: 200.8TT 1/5
 Vial Number: 3101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	19.84	19.84	ug/l	0.64	100.00		35198.84	35476.05	35098.48
11 B #3	107.5	107.5	ug/l	0.76	1800.00		151680.45	152449.77	153149.08
23 Na #1	23980	23980	ug/l	0.83	81000.00		82116976.00	82469280.00	81913296.00
24 Mg #1	2914	2914	ug/l	0.52	81000.00		7016033.00	7004948.00	6966647.50
27 Al #1	253.4	253.4	ug/l	0.28	81000.00		727549.75	722757.06	720710.50
39 K #2	4801	4801	ug/l	1.26	81000.00		1633820.60	1604196.80	1634684.10
40 Ca #1	5376	5376	ug/l	0.32	81000.00		35654348.00	35384904.00	35409340.00
47 Ti #3	21.04	21.04	ug/l	1.03	1620.00		22243.65	22443.83	22190.27
51 V #2	20	20	ug/l	0.75	1800.00		52338.34	52633.52	52434.07
52 Cr #2	19.96	19.96	ug/l	0.39	1800.00		63031.15	63697.73	63753.34
55 Mn #3	209.5	209.5	ug/l	0.32	1800.00		3851918.80	3853647.50	3851228.30
56 Fe #1	2139	2139	ug/l	1.00	81000.00		18366602.00	18494800.00	18400418.00
59 Co #3	20.24	20.24	ug/l	0.17	1800.00		281607.25	281613.03	282189.75
60 Ni #2	21.24	21.24	ug/l	0.96	1800.00		24998.02	25031.47	24910.10
63 Cu #2	23.09	23.09	ug/l	0.76	1800.00		74811.27	74630.45	74824.66
66 Zn #3	28.4	28.4	ug/l	0.85	1800.00		58480.34	57958.29	57791.15
75 As #2	20.05	20.05	ug/l	0.77	100.00		6873.63	6917.32	6885.31
78 Se #1	19.58	19.58	ug/l	0.91	100.00		5196.42	5218.09	5137.73
88 Sr #3	42.57	42.57	ug/l	0.52	1800.00		1033732.20	1041359.60	1057179.80
95 Mo #3	21.39	21.39	ug/l	0.81	1800.00		81821.32	82273.27	82735.51
107 Ag #3	19.76	19.76	ug/l	1.00	100.00		211694.02	212135.95	213010.16
111 Cd #3	19.69	19.69	ug/l	0.86	100.00		45471.96	46056.55	45565.47
118 Sn #3	20.4	20.4	ug/l	0.92	1800.00		148912.81	149535.98	149820.97
121 Sb #3	19.95	19.95	ug/l	0.32	100.00		172729.80	175471.09	175190.84
137 Ba #3	25.66	25.66	ug/l	1.20	1800.00		98943.55	100291.29	98504.41
202 Hg #3	0.9503	0.9503	ug/l	2.18	5.00		3119.99	3036.30	3082.64
205 Tl #3	3.876	3.876	ug/l	0.76	20.00		102848.59	102483.23	101519.95
208 Pb #3	19.76	19.76	ug/l	0.96	1800.00		712229.69	709357.25	708510.69
232 Th #3	21.1	21.1	ug/l	1.22	#VALUE!		792098.69	789744.75	793083.13
238 U #3	20.28	20.28	ug/l	1.31	#VALUE!		789298.00	786864.38	800708.31

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	410797.19	0.28	442436.88	92.8	60 - 125		412087.44	410345.97	409958.13
45 Sc #1	445010.03	0.73	456299.72	97.5	60 - 125		448748.50	443406.94	442874.72
45 Sc #3	716573.06	0.71	765061.25	93.7	60 - 125		711563.38	716440.81	721715.00
74 Ge #1	152067.39	0.65	153441.28	99.1	60 - 125		153211.88	151479.09	151511.20
74 Ge #2	45118.54	0.76	47804.94	94.4	60 - 125		44792.52	45086.61	45476.49
74 Ge #3	214532.23	0.29	224564.78	95.5	60 - 125		214179.56	214162.64	215254.48
89 Y #3	1262175.60	1.24	1302847.50	96.9	60 - 125		1254822.50	1251529.90	1280174.30
115 In #3	1297251.00	1.18	1366177.60	95.0	60 - 125		1279611.50	1307628.40	1304513.30
159 Tb #3	1945676.40	0.95	2052817.90	94.8	60 - 125		1943004.50	1965321.30	1928703.30
209 Bi #3	1254770.00	1.11	1405468.50	89.3	60 - 125		1238950.60	1265044.50	1260315.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\128SMPL.D\128SMPL.D#
 Date Acquired: Aug 25 2014 01:46 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-2-e ms
 Misc Info: 200.8T 1/5
 Vial Number: 3102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	9.762	9.762	ug/l	1.61	100.00		17214.61	17544.86	17504.91
11 B #3	105.8	105.8	ug/l	1.49	1800.00		149108.58	151580.02	151306.98
23 Na #1	22770	22770	ug/l	0.37	81000.00		76504240.00	76423880.00	76305064.00
24 Mg #1	1862	1862	ug/l	1.11	81000.00		4426424.50	4346134.50	4364718.00
27 Al #1	1048	1048	ug/l	1.10	81000.00		2944175.00	2887360.30	2945534.50
39 K #2	3762	3762	ug/l	1.82	81000.00		1246793.80	1258631.50	1304485.80
40 Ca #1	4297	4297	ug/l	1.13	81000.00		28079920.00	27524996.00	27728074.00
47 Ti #3	20.08	20.08	ug/l	1.12	1620.00		21015.65	21042.28	21576.20
51 V #2	19.57	19.57	ug/l	0.43	1800.00		50601.34	51203.02	51590.73
52 Cr #2	19.58	19.58	ug/l	0.49	1800.00		61662.07	61643.13	62716.58
55 Mn #3	106.2	106.2	ug/l	0.66	1800.00		1966648.80	1972778.80	1957271.60
56 Fe #1	1065	1065	ug/l	0.56	81000.00		8975777.00	9017696.00	8948735.00
59 Co #3	10.06	10.06	ug/l	0.31	1800.00		140898.31	141183.27	140978.52
60 Ni #2	20.39	20.39	ug/l	0.26	1800.00		23703.06	23816.48	24097.92
63 Cu #2	22.49	22.49	ug/l	0.46	1800.00		72462.05	72229.93	72730.96
66 Zn #3	27.61	27.61	ug/l	0.61	1800.00		56363.29	57132.47	56979.03
75 As #2	19.79	19.79	ug/l	0.94	100.00		6664.22	6789.94	6864.30
78 Se #1	19.41	19.41	ug/l	0.95	100.00		5089.39	5112.39	5133.40
88 Sr #3	42.02	42.02	ug/l	0.18	1800.00		1020084.80	1018101.40	1019861.30
95 Mo #3	20.85	20.85	ug/l	1.40	1800.00		81506.99	79216.50	79791.88
107 Ag #3	9.819	9.819	ug/l	0.33	100.00		105385.20	105817.39	105357.82
111 Cd #3	9.789	9.789	ug/l	0.92	100.00		22677.40	22921.54	22534.19
118 Sn #3	40.59	40.59	ug/l	0.34	1800.00		297827.09	295293.63	296338.56
121 Sb #3	10.03	10.03	ug/l	0.68	100.00		88421.65	87139.11	87420.15
137 Ba #3	25.13	25.13	ug/l	1.30	1800.00		98019.05	95594.69	97807.36
202 Hg #3	0.9125	0.9125	ug/l	1.70	5.00		2942.28	2888.60	2964.28
205 Tl #3	7.733	7.733	ug/l	0.73	20.00		202200.44	201398.64	201731.41
208 Pb #3	9.993	9.993	ug/l	0.49	1800.00		355984.31	356265.00	356299.56
232 Th #3	9.822	9.822	ug/l	0.35	#VALUE!		368116.63	370316.97	372761.25
238 U #3	10.15	10.15	ug/l	0.93	#VALUE!		398348.59	399594.88	397762.28

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	412538.78	0.58	442436.88	93.2	60 - 125		415230.19	410728.00	411658.16
45 Sc #1	435758.59	0.24	456299.72	95.5	60 - 125		434915.13	435457.59	436903.03
45 Sc #3	714204.63	0.44	765061.25	93.4	60 - 125		711130.94	714107.88	717375.06
74 Ge #1	151232.70	0.55	153441.28	98.6	60 - 125		152197.80	150744.44	150755.92
74 Ge #2	44916.98	0.60	47804.94	94.0	60 - 125		44673.41	44869.49	45208.07
74 Ge #3	215877.83	0.30	224564.78	96.1	60 - 125		215358.83	215683.64	216591.02
89 Y #3	1248325.10	0.27	1302847.50	95.8	60 - 125		1251716.10	1244893.10	1248366.10
115 In #3	1296514.60	0.09	1366177.60	94.9	60 - 125		1297679.60	1295330.10	1296534.50
159 Tb #3	1925648.90	0.53	2052817.90	93.8	60 - 125		1914053.80	1933530.40	1929362.60
209 Bi #3	1260769.60	0.89	1405468.50	89.7	60 - 125		1248265.90	1264270.80	1269772.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\129SMPL.D\129SMPL.D#
 Date Acquired: Aug 25 2014 01:54 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-2-f msd
 Misc Info: 200.8TT 1/5
 Vial Number: 3103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	10.24	10.24	ug/l	0.88	100.00		17978.63	18222.17	17911.92
11 B #3	110.8	110.8	ug/l	1.32	1800.00		156689.59	156350.23	153531.20
23 Na #1	23630	23630	ug/l	1.18	81000.00		80495696.00	78988520.00	80093976.00
24 Mg #1	1936	1936	ug/l	0.52	81000.00		4602965.00	4573821.50	4576971.50
27 Al #1	1084	1084	ug/l	0.28	81000.00		3044144.30	3045336.50	3053895.00
39 K #2	3893	3893	ug/l	0.23	81000.00		1303758.50	1304940.40	1318355.40
40 Ca #1	4430	4430	ug/l	0.65	81000.00		28863182.00	29033116.00	28603690.00
47 Ti #3	20.6	20.6	ug/l	2.63	1620.00		21449.36	21109.02	22136.73
51 V #2	20.33	20.33	ug/l	1.34	1800.00		53359.01	52274.77	53082.69
52 Cr #2	20.26	20.26	ug/l	0.14	1800.00		63439.08	63956.35	64415.74
55 Mn #3	109.7	109.7	ug/l	0.69	1800.00		1997210.10	1992265.00	2025616.60
56 Fe #1	1096	1096	ug/l	0.05	81000.00		9300731.00	9330017.00	9301702.00
59 Co #3	10.31	10.31	ug/l	0.38	1800.00		142107.41	142229.05	143682.94
60 Ni #2	21.15	21.15	ug/l	0.46	1800.00		24556.29	24746.56	24722.11
63 Cu #2	23.33	23.33	ug/l	0.56	1800.00		74877.04	74877.23	75044.48
66 Zn #3	28.64	28.64	ug/l	1.00	1800.00		58396.51	57483.73	58644.34
75 As #2	20.23	20.23	ug/l	0.68	100.00		6902.31	6884.97	6901.31
78 Se #1	20.25	20.25	ug/l	0.71	100.00		5349.13	5291.11	5367.13
88 Sr #3	43.18	43.18	ug/l	0.41	1800.00		1046045.50	1043534.40	1052267.80
95 Mo #3	21.46	21.46	ug/l	0.46	1800.00		82343.92	82584.32	81821.38
107 Ag #3	9.63	9.63	ug/l	1.51	100.00		102414.24	104808.37	102242.77
111 Cd #3	10.1	10.1	ug/l	1.36	100.00		23087.66	23585.03	23378.18
118 Sn #3	41.69	41.69	ug/l	0.62	1800.00		303020.47	302870.28	304762.88
121 Sb #3	10.27	10.27	ug/l	0.74	100.00		89839.63	90060.49	88613.51
137 Ba #3	25.68	25.68	ug/l	0.34	1800.00		99031.26	98840.10	99050.98
202 Hg #3	0.9413	0.9413	ug/l	0.88	5.00		3000.29	3041.30	3004.96
205 Tl #3	7.957	7.957	ug/l	0.45	20.00		207726.69	206713.34	207338.58
208 Pb #3	10.27	10.27	ug/l	0.42	1800.00		367550.19	363727.06	364421.50
232 Th #3	10.28	10.28	ug/l	1.85	#VALUE!		382378.22	378362.84	386640.25
238 U #3	10.49	10.49	ug/l	0.70	#VALUE!		408079.63	405608.22	405209.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	406988.47	0.26	442436.88	92.0	60 - 125		405754.56	407503.75	407707.06
45 Sc #1	438800.91	0.20	456299.72	96.2	60 - 125		438092.75	439766.38	438543.59
45 Sc #3	707914.50	0.28	765061.25	92.5	60 - 125		706534.69	710182.88	707026.00
74 Ge #1	151346.41	0.15	153441.28	98.6	60 - 125		151603.81	151197.81	151237.56
74 Ge #2	44759.87	0.67	47804.94	93.6	60 - 125		44480.71	44721.29	45077.62
74 Ge #3	213096.73	0.25	224564.78	94.9	60 - 125		212631.88	212986.89	213671.44
89 Y #3	1248258.30	0.73	1302847.50	95.8	60 - 125		1241100.50	1245147.80	1258526.40
115 In #3	1292369.10	0.35	1366177.60	94.6	60 - 125		1297410.10	1290814.60	1288882.80
159 Tb #3	1922467.60	0.44	2052817.90	93.7	60 - 125		1930132.60	1923770.00	1913500.60
209 Bi #3	1244444.40	0.78	1405468.50	88.5	60 - 125		1248267.60	1251690.30	1233375.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\130SMPL.D\130SMPL.D#
 Date Acquired: Aug 25 2014 02:01 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 480-65515-d-3-b
 Misc Info: 200.8TT 1/5
 Vial Number: 3104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001908	0.001908	ug/l	55.92	100.00		3.33	3.33	6.67
11 B #3	5.302	5.302	ug/l	5.58	1800.00		10019.51	9802.69	9305.79
23 Na #1	2626	2626	ug/l	0.43	81000.00		8938218.00	9023920.00	8938280.00
24 Mg #1	297.4	297.4	ug/l	1.39	81000.00		700144.56	699950.81	718049.13
27 Al #1	11.13	11.13	ug/l	0.77	81000.00		32624.99	33289.31	32868.55
39 K #2	312	312	ug/l	1.59	81000.00		115426.61	118140.92	118938.77
40 Ca #1	1240	1240	ug/l	0.74	81000.00		8007495.50	8128156.50	8169963.00
47 Ti #3	0.2461	0.2461	ug/l	10.01	1620.00		386.68	343.35	350.01
51 V #2	0.1879	0.1879	ug/l	6.38	1800.00		692.24	712.24	754.47
52 Cr #2	0.05511	0.05511	ug/l	13.25	1800.00		516.68	474.45	506.68
55 Mn #3	6.154	6.154	ug/l	0.75	1800.00		114975.96	114547.76	115217.77
56 Fe #1	124.8	124.8	ug/l	0.04	81000.00		1060494.80	1067912.80	1067054.00
59 Co #3	0.02144	0.02144	ug/l	11.07	1800.00		383.35	390.02	326.68
60 Ni #2	0.2071	0.2071	ug/l	4.00	1800.00		285.56	304.45	287.78
63 Cu #2	0.1897	0.1897	ug/l	2.91	1800.00		1052.26	1022.26	1044.48
66 Zn #3	0.5352	0.5352	ug/l	4.19	1800.00		1723.47	1740.13	1640.12
75 As #2	0.09528	0.09528	ug/l	5.81	100.00		49.00	47.67	45.33
78 Se #1	-0.017	-0.017	ug/l	73.24	100.00		16.33	19.67	13.00
88 Sr #3	12.04	12.04	ug/l	0.05	1800.00		289073.06	294424.66	291107.41
95 Mo #3	0.02256	0.02256	ug/l	19.05	1800.00		180.01	210.01	216.67
107 Ag #3	-0.002675	-0.002675	ug/l	35.00	100.00		90.00	103.34	83.34
111 Cd #3	0.003397	0.003397	ug/l	62.29	100.00		9.96	19.95	13.29
118 Sn #3	0.1096	0.1096	ug/l	12.38	1800.00		1440.10	1450.11	1643.46
121 Sb #3	0.01697	0.01697	ug/l	26.22	100.00		163.34	236.68	170.01
137 Ba #3	3.167	3.167	ug/l	1.40	1800.00		12431.53	12431.55	12454.88
202 Hg #3	-0.00416	-0.00416	ug/l	85.91	5.00		120.34	109.00	98.34
205 Tl #3	0.009732	0.009732	ug/l	12.20	20.00		483.36	423.35	436.69
208 Pb #3	0.06528	0.06528	ug/l	25.11	1800.00		4401.19	3396.92	3373.60
232 Th #3	0.1854	0.1854	ug/l	5.57	#VALUE!		7878.92	7442.02	7118.56
238 U #3	0.004471	0.004471	ug/l	16.06	#VALUE!		176.67	220.01	233.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	412762.78	0.60	442436.88	93.3	60 - 125		409926.59	413858.69	414503.06
45 Sc #1	439340.53	0.35	456299.72	96.3	60 - 125		437603.25	440463.50	439954.88
45 Sc #3	707740.94	0.79	765061.25	92.5	60 - 125		702314.44	707382.81	713525.50
74 Ge #1	154048.23	0.18	153441.28	100.4	60 - 125		153740.64	154248.13	154156.00
74 Ge #2	45109.28	0.22	47804.94	94.4	60 - 125		45009.72	45209.13	45109.00
74 Ge #3	215209.44	0.48	224564.78	95.8	60 - 125		215697.39	215906.30	214024.61
89 Y #3	1241321.00	0.49	1302847.50	95.3	60 - 125		1234367.50	1245472.10	1244123.60
115 In #3	1313916.10	1.45	1366177.60	96.2	60 - 125		1292256.10	1321212.80	1328279.80
159 Tb #3	1936484.40	0.23	2052817.90	94.3	60 - 125		1937473.90	1931616.90	1940362.30
209 Bi #3	1300540.90	0.80	1405468.50	92.5	60 - 125		1293081.80	1312354.60	1296186.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\131_QCS.D\131_QCS.D#
 Date Acquired: Aug 25 2014 02:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.09 ug/l	1.87	0.10 69.5 - 130	
11 B	21.25 ug/l	1.64	20.00 69.5 - 130	
23 Na	49.11 ug/l	1.44	50.00 69.5 - 130	
24 Mg	56.83 ug/l	1.21	50.00 69.5 - 130	
27 Al	11.46 ug/l	2.31	10.00 69.5 - 130	
39 K	41.09 ug/l	0.87	50.00 69.5 - 130	
40 Ca	57.23 ug/l	0.83	50.00 69.5 - 130	
47 Ti	1.12 ug/l	12.80	1.00 69.5 - 130	
51 V	0.98 ug/l	1.23	1.00 69.5 - 130	
52 Cr	0.98 ug/l	1.87	1.00 69.5 - 130	
55 Mn	1.07 ug/l	1.48	1.00 69.5 - 130	
56 Fe	23.30 ug/l	0.57	20.00 69.5 - 130	
59 Co	0.10 ug/l	2.28	0.10 69.5 - 130	
60 Ni	1.02 ug/l	0.92	1.00 69.5 - 130	
63 Cu	0.93 ug/l	1.25	1.00 69.5 - 130	
66 Zn	4.02 ug/l	2.15	4.00 69.5 - 130	
75 As	0.49 ug/l	0.86	0.50 69.5 - 130	
78 Se	0.47 ug/l	6.15	0.50 69.5 - 130	
88 Sr	0.19 ug/l	0.73	0.20 69.5 - 130	
95 Mo	0.95 ug/l	4.34	1.00 69.5 - 130	
107 Ag	0.21 ug/l	2.50	0.20 69.5 - 130	
111 Cd	0.10 ug/l	2.46	0.10 69.5 - 130	
118 Sn	1.10 ug/l	0.18	1.00 69.5 - 130	
121 Sb	0.97 ug/l	1.87	1.00 69.5 - 130	
137 Ba	1.01 ug/l	3.14	1.00 69.5 - 130	
202 Hg	0.14 ug/l	3.78	0.16 69.5 - 130	
205 Tl	0.19 ug/l	2.74	0.20 69.5 - 130	
208 Pb	0.29 ug/l	13.24	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	417935.28	0.49	442436.88	94.5	60 - 125	
45 Sc	439672.94	0.49	456299.72	96.4	60 - 125	
45 Sc	717599.13	0.58	765061.25	93.8	60 - 125	
74 Ge	153548.00	0.24	153441.28	100.1	60 - 125	
74 Ge	45808.80	0.55	47804.94	95.8	60 - 125	
74 Ge	218258.25	0.41	224564.78	97.2	60 - 125	
89 Y	1276573.40	0.85	1302847.50	98.0	60 - 125	
115 In	1333246.40	1.34	1366177.60	97.6	60 - 125	
159 Tb	1966228.10	0.10	2052817.90	95.8	60 - 125	
209 Bi	1318219.90	1.08	1405468.50	93.8	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\132_CCV.D\132_CCV.D#
 Date Acquired: Aug 25 2014 02:16 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.17 ug/l	0.53	50.00	89.5 - 110		89617.17	89878.11	89456.56
11 B	99 ug/l	1.45	100.00	89.5 - 110		142291.27	142061.88	139505.41
23 Na	5143 ug/l	1.12	5000.00	89.5 - 110		17721406.00	18005544.00	17643072.00
24 Mg	5141 ug/l	0.77	5000.00	89.5 - 110		12454558.00	12452921.00	12312819.00
27 Al	527.1 ug/l	0.57	500.00	89.5 - 110		1519001.30	1510030.60	1505347.30
39 K	4843 ug/l	0.31	5000.00	89.5 - 110		1668067.30	1680383.50	1696967.00
40 Ca	5192 ug/l	0.96	5000.00	89.5 - 110		34571928.00	34659536.00	34107008.00
47 Ti	51.19 ug/l	1.02	50.00	89.5 - 110		55508.87	54980.85	55001.18
51 V	49.51 ug/l	0.35	50.00	89.5 - 110		132494.44	133085.98	133376.92
52 Cr	49.29 ug/l	0.31	50.00	89.5 - 110		159775.98	160577.97	161025.08
55 Mn	504.5 ug/l	1.17	500.00	89.5 - 110		9391660.00	9494374.00	9494068.00
56 Fe	5298 ug/l	0.58	5000.00	89.5 - 110		46030500.00	45899172.00	45617560.00
59 Co	49.97 ug/l	0.65	50.00	89.5 - 110		708886.25	711313.88	708047.56
60 Ni	50.71 ug/l	0.70	50.00	89.5 - 110		61195.89	61159.25	61077.74
63 Cu	49.51 ug/l	0.47	50.00	89.5 - 110		163987.20	163641.09	164348.45
66 Zn	49.46 ug/l	0.78	50.00	89.5 - 110		102400.90	102896.61	102692.55
75 As	50.44 ug/l	0.29	50.00	89.5 - 110		17745.92	17693.21	17875.71
78 Se	50.74 ug/l	0.20	50.00	89.5 - 110		13705.82	13777.21	13572.39
88 Sr	49.32 ug/l	0.81	50.00	89.5 - 110		1200899.50	1236327.30	1225355.40
95 Mo	50.45 ug/l	0.50	50.00	89.5 - 110		197313.83	197313.48	197942.34
107 Ag	48.99 ug/l	0.41	50.00	89.5 - 110		535828.88	536536.38	535897.75
111 Cd	49.82 ug/l	0.73	50.00	89.5 - 110		118198.09	118006.63	117184.06
118 Sn	50.13 ug/l	0.33	50.00	89.5 - 110		372679.13	374373.69	372240.97
121 Sb	49.45 ug/l	0.72	50.00	89.5 - 110		437934.09	439636.34	444029.63
137 Ba	49.46 ug/l	0.45	50.00	89.5 - 110		194645.09	194794.47	195153.59
202 Hg	2.521 ug/l	2.62	2.50	89.5 - 110		8120.42	7956.66	7854.94
205 Tl	9.795 ug/l	1.04	10.00	89.5 - 110		257715.47	259203.33	258569.58
208 Pb	49.48 ug/l	1.03	50.00	89.5 - 110		1776894.40	1780176.30	1778539.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	413074.03	0.34	442436.88	93.4	60 - 125		412080.31	412476.88	414664.88
45 Sc	447341.47	0.12	456299.72	98.0	60 - 125		446860.75	447263.31	447900.34
45 Sc	731043.94	0.72	765061.25	95.6	60 - 125		728989.56	727153.50	736988.75
74 Ge	155271.38	0.77	153441.28	101.2	60 - 125		155158.25	156524.14	154131.75
74 Ge	46311.94	0.61	47804.94	96.9	60 - 125		46094.75	46212.77	46628.30
74 Ge	218770.63	0.55	224564.78	97.4	60 - 125		220165.80	218102.44	218043.67
89 Y	1274017.80	0.69	1302847.50	97.8	60 - 125		1264836.50	1282357.50	1274859.00
115 In	1321526.00	0.47	1366177.60	96.7	60 - 125		1315157.90	1327618.50	1321801.50
159 Tb	1948223.80	1.03	2052817.90	94.9	60 - 125		1936007.90	1937195.40	1971468.10
209 Bi	1287419.40	0.90	1405468.50	91.6	60 - 125		1288054.00	1275524.10	1298679.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\133_CCB.D\133_CCB.D#
 Date Acquired: Aug 25 2014 02:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00318	0.00318	ug/l	118.68	#VALUE!		13.33	0.00	6.67
11 B #3	2.247	2.247	ug/l	1.82	#VALUE!		5410.90	5404.21	5367.53
23 Na #1	-6.297	-6.297	ug/l	2.22	#VALUE!		70335.21	71432.25	70953.85
24 Mg #1	0.0288	0.0288	ug/l	104.83	#VALUE!		1160.06	1030.06	1136.73
27 Al #1	-0.1407	-0.1407	ug/l	5.96	#VALUE!		1210.08	1190.07	1173.40
39 K #2	-8.513	-8.513	ug/l	3.35	#VALUE!		9859.52	9849.49	9979.55
40 Ca #1	0.02478	0.02478	ug/l	177.08	#VALUE!		25143.94	25010.35	24786.71
47 Ti #3	-0.07064	-0.07064	ug/l	20.19	#VALUE!		46.67	23.33	20.00
51 V #2	-0.008839	-0.008839	ug/l	98.86	#VALUE!		213.34	222.23	180.00
52 Cr #2	-0.02068	-0.02068	ug/l	17.97	#VALUE!		246.67	256.67	273.34
55 Mn #3	0.0103	0.0103	ug/l	18.38	#VALUE!		1570.12	1633.46	1623.45
56 Fe #1	0.5815	0.5815	ug/l	5.94	#VALUE!		9395.95	8899.01	9015.76
59 Co #3	-0.0001778	-0.0001778	ug/l	464.34	#VALUE!		63.34	76.67	53.33
60 Ni #2	-0.01003	-0.01003	ug/l	22.06	#VALUE!		34.44	40.00	38.89
63 Cu #2	-0.06225	-0.06225	ug/l	3.68	#VALUE!		217.78	232.23	235.56
66 Zn #3	-0.1079	-0.1079	ug/l	17.71	#VALUE!		433.35	356.68	393.35
75 As #2	-0.007331	-0.007331	ug/l	64.49	#VALUE!		13.67	10.67	12.00
78 Se #1	-0.02263	-0.02263	ug/l	31.06	#VALUE!		14.67	16.33	12.67
88 Sr #3	0.000854	0.000854	ug/l	91.19	#VALUE!		176.67	153.34	190.01
95 Mo #3	0.03003	0.03003	ug/l	10.70	#VALUE!		230.01	243.34	220.01
107 Ag #3	-0.00217	-0.00217	ug/l	61.94	#VALUE!		96.67	83.34	113.34
111 Cd #3	0.001996	0.001996	ug/l	179.26	#VALUE!		9.95	19.95	3.29
118 Sn #3	0.1122	0.1122	ug/l	7.34	#VALUE!		1480.11	1596.79	1513.45
121 Sb #3	0.01748	0.01748	ug/l	11.51	#VALUE!		173.34	206.67	203.34
137 Ba #3	0.001911	0.001911	ug/l	111.41	#VALUE!		36.67	53.33	46.67
202 Hg #3	0.003081	0.003081	ug/l	11.94	#VALUE!		132.00	132.00	129.67
205 Tl #3	-0.002671	-0.002671	ug/l	5.84	#VALUE!		120.00	120.00	126.67
208 Pb #3	-0.01009	-0.01009	ug/l	249.45	#VALUE!		466.68	560.02	2057.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	410579.03	0.63	442436.88	92.8	60 - 125		408408.44	409898.91	413429.78
45 Sc #1	430700.38	0.40	456299.72	94.4	60 - 125		429003.88	430641.19	432456.00
45 Sc #3	703000.25	0.59	765061.25	91.9	60 - 125		698288.13	704658.00	706054.56
74 Ge #1	151231.92	0.46	153441.28	98.6	60 - 125		150425.92	151555.00	151714.89
74 Ge #2	45003.06	0.97	47804.94	94.1	60 - 125		44501.87	45281.51	45225.80
74 Ge #3	214590.09	0.34	224564.78	95.6	60 - 125		214766.38	215221.59	213782.30
89 Y #3	1244233.60	1.82	1302847.50	95.5	60 - 125		1218179.00	1254752.10	1259769.60
115 In #3	1314058.90	0.50	1366177.60	96.2	60 - 125		1308872.90	1311789.10	1321514.40
159 Tb #3	1930043.50	0.24	2052817.90	94.0	60 - 125		1935212.60	1928838.90	1926078.80
209 Bi #3	1302153.40	0.40	1405468.50	92.6	60 - 125		1301726.10	1297219.60	1307514.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\134ICSA.D\134ICSA.D#
 Date Acquired: Aug 25 2014 02:31 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.009579 ug/l	71.02	---	
11 B	1.667 ug/l	4.43	---	
23 Na	98220 ug/l	0.30	1.20	
24 Mg	96800 ug/l	0.42	1.20	
27 Al	97040 ug/l	0.72	1.20	
39 K	98020 ug/l	1.49	1.20	
40 Ca	102200 ug/l	0.15	1.20	
47 Ti	1957 ug/l	0.82	1.20	
51 V	0.01134 ug/l	42.81	---	
52 Cr	1.308 ug/l	2.42	---	
55 Mn	0.4145 ug/l	1.44	---	
56 Fe	98050 ug/l	0.76	1.20	
59 Co	0.09124 ug/l	5.17	---	
60 Ni	0.1768 ug/l	10.61	---	
63 Cu	0.4661 ug/l	4.29	---	
66 Zn	1.556 ug/l	5.41	---	
75 As	0.09794 ug/l	8.68	---	
78 Se	-0.0004743 ug/l	1333.30	---	
88 Sr	0.6104 ug/l	1.20	---	
95 Mo	2083 ug/l	1.08	1.20	
107 Ag	0.01425 ug/l	5.47	---	
111 Cd	0.08645 ug/l	40.19	---	
118 Sn	0.09848 ug/l	2.24	---	
121 Sb	0.0344 ug/l	13.63	---	
137 Ba	0.1004 ug/l	8.69	---	
202 Hg	0.004486 ug/l	32.95	---	
205 Tl	-0.002233 ug/l	22.21	---	
208 Pb	0.1413 ug/l	0.76	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	429979.06	1.01	442436.88	97.2	60 - 125		
45 Sc	447833.56	0.19	456299.72	98.1	60 - 125		
45 Sc	794153.19	0.13	765061.25	103.8	60 - 125		
74 Ge	145175.58	0.48	153441.28	94.6	60 - 125		
74 Ge	45061.70	1.36	47804.94	94.3	60 - 125		
74 Ge	219093.14	0.50	224564.78	97.6	60 - 125		
89 Y	1325596.90	0.43	1302847.50	101.7	60 - 125		
115 In	1288836.40	1.01	1366177.60	94.3	60 - 125		
159 Tb	1940939.80	1.05	2052817.90	94.6	60 - 125		
209 Bi	1108501.80	1.73	1405468.50	78.9	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\135ICSB.D\135ICSB.D#
 Date Acquired: Aug 25 2014 02:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.01 ug/l	50.97	--- ##### - #####	
11 B	1.30 ug/l	5.98	--- ##### - #####	
23 Na	98890.00 ug/l	14.71	100000.00 80 - 120	
24 Mg	98350.00 ug/l	15.68	100000.00 80 - 120	
27 Al	97240.00 ug/l	15.70	100000.00 80 - 120	
39 K	98100.00 ug/l	0.96	100000.00 80 - 120	
40 Ca	103000.00 ug/l	15.78	100000.00 80 - 120	
47 Ti	1978.00 ug/l	1.33	2000.00 80 - 120	
51 V	0.02 ug/l	22.72	--- ##### - #####	
52 Cr	21.77 ug/l	0.19	20.00 80 - 120	
55 Mn	21.44 ug/l	0.71	20.00 80 - 120	
56 Fe	98420.00 ug/l	16.08	100000.00 80 - 120	
59 Co	20.42 ug/l	0.40	20.00 80 - 120	
60 Ni	20.04 ug/l	1.06	20.00 80 - 120	
63 Cu	18.94 ug/l	0.85	20.00 80 - 120	
66 Zn	20.44 ug/l	0.81	20.00 80 - 120	
75 As	21.08 ug/l	0.29	20.00 80 - 120	
78 Se	0.01 ug/l	133.12	--- ##### - #####	
88 Sr	0.62 ug/l	1.13	--- ##### - #####	
95 Mo	2088.00 ug/l	0.61	2000.00 80 - 120	
107 Ag	18.20 ug/l	0.45	20.00 80 - 120	
111 Cd	18.84 ug/l	0.47	20.00 80 - 120	
118 Sn	0.12 ug/l	0.77	--- ##### - #####	
121 Sb	0.04 ug/l	7.37	--- ##### - #####	
137 Ba	0.10 ug/l	6.66	--- ##### - #####	
202 Hg	0.00 ug/l	217.05	--- ##### - #####	
205 Tl	0.00 ug/l	38.96	--- ##### - #####	
208 Pb	0.17 ug/l	12.95	--- ##### - #####	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	422763.13	0.34	442436.88	95.6	60 - 125	
45 Sc	476137.38	14.33	456299.72	104.3	60 - 125	
45 Sc	784690.63	1.79	765061.25	102.6	60 - 125	
74 Ge	151931.63	9.41	153441.28	99.0	60 - 125	
74 Ge	45373.25	0.96	47804.94	94.9	60 - 125	
74 Ge	219498.33	0.93	224564.78	97.7	60 - 125	
89 Y	1329860.90	0.97	1302847.50	102.1	60 - 125	
115 In	1292683.50	1.08	1366177.60	94.6	60 - 125	
159 Tb	1937690.00	1.10	2052817.90	94.4	60 - 125	
209 Bi	1126035.30	0.83	1405468.50	80.1	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\136SMPL.D\136SMPL.D#
 Date Acquired: Aug 25 2014 02:46 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.004425	0.004425	ug/l	122.40	100.00		3.33	20.00	3.33
11 B #3	0.7671	0.7671	ug/l	12.95	1800.00		3183.66	3480.41	3330.37
23 Na #1	2.493	2.493	ug/l	16.45	81000.00		103225.52	101194.41	101351.29
24 Mg #1	5.287	5.287	ug/l	1.57	81000.00		13781.95	13364.95	13588.43
27 Al #1	5.025	5.025	ug/l	0.49	81000.00		15786.87	15610.15	15796.93
39 K #2	-3.902	-3.902	ug/l	56.23	81000.00		10926.78	11123.58	11310.32
40 Ca #1	5.54	5.54	ug/l	1.67	81000.00		61477.09	61427.00	61086.01
47 Ti #3	0.1925	0.1925	ug/l	16.49	1620.00		340.01	286.68	333.35
51 V #2	0.004909	0.004909	ug/l	106.54	1800.00		227.78	232.23	243.34
52 Cr #2	0.001098	0.001098	ug/l	452.73	1800.00		302.23	336.67	317.78
55 Mn #3	0.0844	0.0844	ug/l	2.44	1800.00		3087.00	3163.69	3147.02
56 Fe #1	8.96	8.96	ug/l	0.52	81000.00		80005.68	80407.01	80826.17
59 Co #3	0.01109	0.01109	ug/l	11.65	1800.00		216.67	253.34	230.01
60 Ni #2	0.0276	0.0276	ug/l	45.51	1800.00		84.45	66.67	86.67
63 Cu #2	-0.01717	-0.01717	ug/l	83.93	1800.00		370.01	327.78	388.90
66 Zn #3	-0.04815	-0.04815	ug/l	53.27	1800.00		520.02	603.36	506.69
75 As #2	0.00716	0.00716	ug/l	113.80	100.00		14.67	20.33	15.00
78 Se #1	-0.0402	-0.0402	ug/l	34.18	100.00		11.33	13.00	6.00
88 Sr #3	0.02092	0.02092	ug/l	16.59	1800.00		670.03	793.38	620.03
95 Mo #3	0.6667	0.6667	ug/l	10.93	1800.00		3113.70	2836.97	2616.94
107 Ag #3	0.001019	0.001019	ug/l	168.20	100.00		136.67	120.00	163.34
111 Cd #3	0.008243	0.008243	ug/l	20.78	100.00		29.32	29.38	22.76
118 Sn #3	0.08854	0.08854	ug/l	14.57	1800.00		1520.12	1343.43	1426.76
121 Sb #3	0.005293	0.005293	ug/l	23.86	100.00		100.00	93.34	80.00
137 Ba #3	0.02735	0.02735	ug/l	8.69	1800.00		140.01	160.01	160.01
202 Hg #3	-0.005436	-0.005436	ug/l	32.06	5.00		110.34	115.67	105.67
205 Tl #3	-0.001339	-0.001339	ug/l	70.99	20.00		136.67	170.01	190.01
208 Pb #3	0.009607	0.009607	ug/l	19.89	1800.00		1736.77	1866.77	1866.77
232 Th #3	0.02187	0.02187	ug/l	8.95	#VALUE!		1136.75	1266.77	1140.08
238 U #3	0.005101	0.005101	ug/l	5.46	#VALUE!		250.01	256.68	236.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	410789.75	0.75	442436.88	92.8	60 - 125		407759.88	410713.63	413895.75
45 Sc #1	438891.53	0.66	456299.72	96.2	60 - 125		438225.78	436394.56	442054.28
45 Sc #3	745297.50	2.06	765061.25	97.4	60 - 125		729247.81	759866.25	746778.44
74 Ge #1	153745.95	0.26	153441.28	100.2	60 - 125		153297.27	153911.80	154028.78
74 Ge #2	43886.65	7.67	47804.94	91.8	60 - 125		40016.36	45499.85	46143.74
74 Ge #3	226209.34	0.64	224564.78	100.7	60 - 125		225422.16	225313.02	227892.81
89 Y #3	1311943.90	0.43	1302847.50	100.7	60 - 125		1317522.60	1312135.90	1306173.10
115 In #3	1387342.10	1.87	1366177.60	101.5	60 - 125		1366134.00	1379672.90	1416219.30
159 Tb #3	2033995.40	0.66	2052817.90	99.1	60 - 125		2028244.80	2024418.10	2049323.10
209 Bi #3	1368973.40	0.70	1405468.50	97.4	60 - 125		1365815.60	1361391.40	1379713.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\137SMPL.D\137SMPL.D#
 Date Acquired: Aug 25 2014 02:53 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.006255	0.006255	ug/l	24.41	100.00		10.00	13.33	13.33
11 B #3	0.6238	0.6238	ug/l	36.65	1800.00		3067.00	3203.68	3243.68
23 Na #1	0.4405	0.4405	ug/l	65.54	81000.00		96477.08	96322.89	97102.84
24 Mg #1	4.764	4.764	ug/l	4.72	81000.00		12250.88	12287.51	13118.12
27 Al #1	4.516	4.516	ug/l	2.59	81000.00		14172.23	14642.53	14822.74
39 K #2	-4.708	-4.708	ug/l	21.62	81000.00		11603.91	11357.06	11310.34
40 Ca #1	4.892	4.892	ug/l	6.11	81000.00		56394.58	57825.53	60076.11
47 Ti #3	0.08941	0.08941	ug/l	19.76	1620.00		213.34	203.34	203.34
51 V #2	0.009627	0.009627	ug/l	98.02	1800.00		247.78	240.00	290.01
52 Cr #2	0.001419	0.001419	ug/l	345.45	1800.00		317.78	333.34	357.78
55 Mn #3	0.08487	0.08487	ug/l	11.01	1800.00		3267.06	3127.03	3030.34
56 Fe #1	6.375	6.375	ug/l	3.73	81000.00		57743.45	59124.22	61536.07
59 Co #3	0.01176	0.01176	ug/l	32.24	1800.00		193.34	260.01	270.01
60 Ni #2	0.02928	0.02928	ug/l	40.37	1800.00		100.00	80.00	76.67
63 Cu #2	-0.03029	-0.03029	ug/l	19.64	1800.00		313.34	341.12	362.23
66 Zn #3	-0.05939	-0.05939	ug/l	22.87	1800.00		556.69	460.02	546.69
75 As #2	0.02156	0.02156	ug/l	55.98	100.00		17.67	23.33	26.67
78 Se #1	-0.04329	-0.04329	ug/l	21.65	100.00		6.67	11.67	10.00
88 Sr #3	0.02265	0.02265	ug/l	24.81	1800.00		646.70	773.37	783.38
95 Mo #3	0.279	0.279	ug/l	6.09	1800.00		1376.77	1216.74	1226.75
107 Ag #3	0.002678	0.002678	ug/l	167.77	100.00		116.67	150.00	206.67
111 Cd #3	0.005032	0.005032	ug/l	54.29	100.00		29.70	16.40	13.06
118 Sn #3	0.07558	0.07558	ug/l	7.29	1800.00		1503.44	1233.41	1283.41
121 Sb #3	0.002917	0.002917	ug/l	93.76	100.00		110.00	53.34	50.00
137 Ba #3	0.02848	0.02848	ug/l	17.24	1800.00		153.34	160.01	160.01
202 Hg #3	-0.006026	-0.006026	ug/l	83.37	5.00		112.00	113.67	96.67
205 Tl #3	-0.002608	-0.002608	ug/l	5.59	20.00		140.01	116.67	133.34
208 Pb #3	0.009039	0.009039	ug/l	58.92	1800.00		1816.76	1806.77	1726.76
232 Th #3	0.01949	0.01949	ug/l	15.07	#VALUE!		1086.74	1110.08	1043.40
238 U #3	0.005295	0.005295	ug/l	19.98	#VALUE!		233.34	230.01	303.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	418332.59	7.96	442436.88	94.6	60 - 125		454087.69	388173.50	412736.59
45 Sc #1	446460.97	0.68	456299.72	97.8	60 - 125		444923.47	449967.13	444492.28
45 Sc #3	748132.44	11.82	765061.25	97.8	60 - 125		841623.31	665932.19	736841.75
74 Ge #1	156331.02	0.55	153441.28	101.9	60 - 125		156673.06	156972.31	155347.67
74 Ge #2	46038.66	1.65	47804.94	96.3	60 - 125		45165.75	46426.60	46523.65
74 Ge #3	226726.88	7.37	224564.78	101.0	60 - 125		244354.00	211125.20	224701.42
89 Y #3	1322942.40	10.62	1302847.50	101.5	60 - 125		1464618.90	1183559.90	1320648.50
115 In #3	1398992.10	10.85	1366177.60	102.4	60 - 125		1555709.80	1252639.10	1388627.60
159 Tb #3	2028380.10	10.82	2052817.90	98.8	60 - 125		2252976.00	1814545.10	2017619.40
209 Bi #3	1372897.60	9.30	1405468.50	97.7	60 - 125		1501211.60	1245851.50	1371629.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\138SMPL.D\138SMPL.D#
 Date Acquired: Aug 25 2014 03:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002542	0.002542	ug/l	42.29	100.00		6.67	3.33	6.67
11 B #3	0.5956	0.5956	ug/l	9.09	1800.00		3157.01	3026.98	3103.66
23 Na #1	-0.2285	-0.2285	ug/l	103.06	81000.00		94370.09	92957.10	92805.54
24 Mg #1	4.809	4.809	ug/l	0.73	81000.00		12664.48	12537.74	12397.62
27 Al #1	4.653	4.653	ug/l	3.23	81000.00		15313.13	14689.32	14362.38
39 K #2	-6.171	-6.171	ug/l	24.57	81000.00		10349.79	10563.26	11383.76
40 Ca #1	4.927	4.927	ug/l	0.79	81000.00		58180.17	57945.83	57083.09
47 Ti #3	0.02353	0.02353	ug/l	48.53	1620.00		116.67	140.00	140.00
51 V #2	0.01281	0.01281	ug/l	32.97	1800.00		252.23	264.45	274.45
52 Cr #2	-0.0004339	-0.0004339	ug/l	1713.30	1800.00		307.78	348.90	318.89
55 Mn #3	0.08762	0.08762	ug/l	4.03	1800.00		3100.35	3127.02	3220.36
56 Fe #1	6.302	6.302	ug/l	2.74	81000.00		59903.58	58486.06	56356.01
59 Co #3	0.009258	0.009258	ug/l	23.23	1800.00		203.34	173.34	233.34
60 Ni #2	0.02711	0.02711	ug/l	20.95	1800.00		82.22	87.78	75.56
63 Cu #2	-0.03293	-0.03293	ug/l	20.93	1800.00		308.89	314.45	352.23
66 Zn #3	-0.07212	-0.07212	ug/l	23.21	1800.00		443.35	523.36	490.02
75 As #2	0.02201	0.02201	ug/l	10.73	100.00		21.67	22.00	23.33
78 Se #1	-0.04199	-0.04199	ug/l	9.45	100.00		9.67	8.67	10.67
88 Sr #3	0.02129	0.02129	ug/l	13.31	1800.00		770.04	640.03	680.04
95 Mo #3	0.1699	0.1699	ug/l	6.53	1800.00		830.04	833.38	753.37
107 Ag #3	-0.0006376	-0.0006376	ug/l	134.52	100.00		113.34	113.34	130.00
111 Cd #3	0.004494	0.004494	ug/l	47.06	100.00		23.15	13.15	16.50
118 Sn #3	0.07646	0.07646	ug/l	9.67	1800.00		1246.76	1366.76	1333.43
121 Sb #3	0.00664	0.00664	ug/l	7.97	100.00		96.67	103.34	106.67
137 Ba #3	0.02494	0.02494	ug/l	32.58	1800.00		103.34	153.34	166.67
202 Hg #3	-0.008521	-0.008521	ug/l	77.95	5.00		75.33	103.34	119.00
205 Tl #3	-0.002727	-0.002727	ug/l	36.85	20.00		93.34	140.00	143.34
208 Pb #3	0.00863	0.00863	ug/l	11.46	1800.00		1720.10	1793.43	1770.10
232 Th #3	0.01615	0.01615	ug/l	13.10	#VALUE!		1033.40	866.72	926.73
238 U #3	0.004896	0.004896	ug/l	8.73	#VALUE!		216.68	250.01	246.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	411377.94	1.00	442436.88	93.0	60 - 125		408194.41	409927.53	416011.88
45 Sc #1	441905.47	0.66	456299.72	96.8	60 - 125		443148.38	443991.09	438576.94
45 Sc #3	728782.81	1.17	765061.25	95.3	60 - 125		720347.06	728596.63	737404.69
74 Ge #1	154321.50	0.72	153441.28	100.6	60 - 125		155018.06	154912.84	153033.64
74 Ge #2	45356.56	0.76	47804.94	94.9	60 - 125		45503.25	44962.97	45603.47
74 Ge #3	222976.33	1.05	224564.78	99.3	60 - 125		220762.86	225445.98	222720.16
89 Y #3	1299337.00	0.69	1302847.50	99.7	60 - 125		1289907.80	1307759.80	1300343.50
115 In #3	1365485.80	0.43	1366177.60	99.9	60 - 125		1360023.30	1371738.40	1364695.40
159 Tb #3	2004980.80	1.00	2052817.90	97.7	60 - 125		1991523.80	1995302.50	2028116.30
209 Bi #3	1361379.30	0.30	1405468.50	96.9	60 - 125		1360005.90	1365949.10	1358182.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\139SMPL.D\139SMPL.D#
 Date Acquired: Aug 25 2014 03:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001309	0.001309	ug/l	144.54	100.00		3.33	0.00	6.67
11 B # 3	0.5698	0.5698	ug/l	8.50	1800.00		3127.00	3023.63	2986.98
23 Na # 1	-3.614	-3.614	ug/l	1.79	81000.00		80788.73	80936.64	80481.47
24 Mg # 1	1.477	1.477	ug/l	6.78	81000.00		4724.02	4273.94	4584.01
27 Al # 1	1.517	1.517	ug/l	2.87	81000.00		5824.40	5957.74	5707.67
39 K # 2	-7.495	-7.495	ug/l	11.21	81000.00		10323.09	10249.74	10093.01
40 Ca # 1	1.624	1.624	ug/l	2.32	81000.00		35413.73	35520.49	35884.61
47 Ti # 3	-0.03556	-0.03556	ug/l	60.43	1620.00		93.34	56.67	53.34
51 V # 2	-0.003992	-0.003992	ug/l	161.90	1800.00		194.45	228.89	230.00
52 Cr # 2	-0.02304	-0.02304	ug/l	8.88	1800.00		242.23	260.00	251.12
55 Mn # 3	0.0149	0.0149	ug/l	31.99	1800.00		1683.46	1836.81	1700.13
56 Fe # 1	2.106	2.106	ug/l	1.03	81000.00		21836.79	22237.18	22120.44
59 Co # 3	0.001177	0.001177	ug/l	166.69	1800.00		103.34	100.00	53.33
60 Ni # 2	-0.0002387	-0.0002387	ug/l	4398.80	1800.00		36.67	62.22	48.89
63 Cu # 2	-0.05467	-0.05467	ug/l	11.23	1800.00		234.45	276.67	246.67
66 Zn # 3	-0.09404	-0.09404	ug/l	27.36	1800.00		396.68	410.02	496.69
75 As # 2	0.001168	0.001168	ug/l	228.85	100.00		15.67	15.00	14.33
78 Se # 1	-0.04919	-0.04919	ug/l	15.69	100.00		8.67	9.00	5.33
88 Sr # 3	0.004603	0.004603	ug/l	20.39	1800.00		296.68	253.34	266.68
95 Mo # 3	0.07185	0.07185	ug/l	8.58	1800.00		400.02	430.02	380.02
107 Ag # 3	-0.004669	-0.004669	ug/l	49.18	100.00		66.67	50.00	100.00
111 Cd # 3	1.617E-005	1.617E-005	ug/l	8577.60	100.00		9.91	3.24	6.58
118 Sn # 3	0.06566	0.06566	ug/l	21.08	1800.00		1156.74	1153.41	1333.43
121 Sb # 3	0.001292	0.001292	ug/l	205.80	100.00		80.00	36.67	40.00
137 Ba # 3	0.01216	0.01216	ug/l	41.55	1800.00		70.00	110.00	83.34
202 Hg # 3	-0.01426	-0.01426	ug/l	25.65	5.00		91.67	69.67	78.67
205 Tl # 3	-0.004627	-0.004627	ug/l	13.89	20.00		66.67	60.00	93.34
208 Pb # 3	-0.01553	-0.01553	ug/l	3.66	1800.00		830.04	880.04	873.37
232 Th # 3	0.01206	0.01206	ug/l	16.18	#VALUE!		780.05	683.37	846.72
238 U # 3	0.001084	0.001084	ug/l	33.75	#VALUE!		76.67	90.00	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	409467.72	0.47	442436.88	92.5	60 - 125		409926.72	411114.88	407361.56
45 Sc # 1	435784.19	0.11	456299.72	95.5	60 - 125		435308.09	436281.84	435762.56
45 Sc # 3	719269.44	0.70	765061.25	94.0	60 - 125		713598.81	723232.81	720976.56
74 Ge # 1	152831.98	0.29	153441.28	99.6	60 - 125		152485.72	152675.22	153335.00
74 Ge # 2	44947.76	1.67	47804.94	94.0	60 - 125		44100.83	45206.96	45535.51
74 Ge # 3	220515.02	0.34	224564.78	98.2	60 - 125		220860.59	219660.95	221023.52
89 Y # 3	1283319.50	0.68	1302847.50	98.5	60 - 125		1275300.30	1282055.10	1292602.90
115 In # 3	1345617.30	0.15	1366177.60	98.5	60 - 125		1345595.40	1347655.50	1343601.10
159 Tb # 3	1988833.30	0.78	2052817.90	96.9	60 - 125		1971116.30	1995254.50	2000129.10
209 Bi # 3	1350701.10	0.75	1405468.50	96.1	60 - 125		1341847.60	1348416.30	1361839.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\140_CCV.D\140_CCV.D#
 Date Acquired: Aug 25 2014 03:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.18 ug/l	0.36	50.00	89.5 - 110		88509.11	89503.48	89747.46
11 B	99.26 ug/l	0.23	100.00	89.5 - 110		139430.95	140837.58	142733.36
23 Na	5150 ug/l	0.98	5000.00	89.5 - 110		17618786.00	17422158.00	17625830.00
24 Mg	5189 ug/l	1.22	5000.00	89.5 - 110		12394739.00	12389181.00	12232270.00
27 Al	520.7 ug/l	0.63	500.00	89.5 - 110		1456622.40	1484569.30	1472349.50
39 K	4792 ug/l	1.32	5000.00	89.5 - 110		1602600.50	1640153.60	1679239.40
40 Ca	5226 ug/l	0.96	5000.00	89.5 - 110		34273188.00	34229320.00	33985512.00
47 Ti	50.75 ug/l	2.25	50.00	89.5 - 110		56131.13	56097.51	55679.79
51 V	49.33 ug/l	0.49	50.00	89.5 - 110		129985.84	130232.06	131627.11
52 Cr	49.2 ug/l	0.01	50.00	89.5 - 110		156247.69	157940.36	159452.61
55 Mn	507 ug/l	0.81	500.00	89.5 - 110		9674529.00	9624553.00	9846813.00
56 Fe	5411 ug/l	0.40	5000.00	89.5 - 110		46057632.00	46174984.00	46207724.00
59 Co	49.7 ug/l	1.24	50.00	89.5 - 110		724241.88	713564.06	725765.06
60 Ni	50.65 ug/l	0.38	50.00	89.5 - 110		59552.83	60000.93	61045.31
63 Cu	49.55 ug/l	0.29	50.00	89.5 - 110		160568.92	161387.11	163432.61
66 Zn	49.24 ug/l	0.93	50.00	89.5 - 110		104532.37	104228.02	104600.02
75 As	50.13 ug/l	0.25	50.00	89.5 - 110		17209.09	17389.26	17638.16
78 Se	50.81 ug/l	0.89	50.00	89.5 - 110		13736.18	13587.41	13522.02
88 Sr	49.64 ug/l	2.07	50.00	89.5 - 110		1240152.90	1265772.00	1249462.50
95 Mo	50.33 ug/l	0.95	50.00	89.5 - 110		201540.47	201172.48	203146.88
107 Ag	48.79 ug/l	0.49	50.00	89.5 - 110		540689.31	548702.81	552255.75
111 Cd	49.82 ug/l	1.53	50.00	89.5 - 110		120058.79	119414.87	122660.59
118 Sn	50.04 ug/l	1.11	50.00	89.5 - 110		381205.41	379465.00	384416.81
121 Sb	49.33 ug/l	0.65	50.00	89.5 - 110		448566.25	450270.31	452181.56
137 Ba	49.12 ug/l	0.52	50.00	89.5 - 110		196144.89	198670.67	200158.20
202 Hg	2.507 ug/l	1.46	2.50	89.5 - 110		8148.44	8150.78	8094.06
205 Tl	9.823 ug/l	0.99	10.00	89.5 - 110		265137.56	264170.06	267873.81
208 Pb	49 ug/l	0.98	50.00	89.5 - 110		1801388.80	1807980.80	1806322.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	411179.38	1.01	442436.88	92.9	60 - 125		406881.28	411472.03	415184.78
45 Sc	440805.53	0.56	456299.72	96.6	60 - 125		438008.94	441623.16	442784.53
45 Sc	748323.75	1.83	765061.25	97.8	60 - 125		734886.56	747795.06	762289.56
74 Ge	154279.78	0.32	153441.28	100.5	60 - 125		154399.30	153734.95	154705.11
74 Ge	45653.93	1.03	47804.94	95.5	60 - 125		45177.92	45669.15	46114.73
74 Ge	223587.00	0.94	224564.78	99.6	60 - 125		221494.47	223573.98	225692.59
89 Y	1298077.80	1.06	1302847.50	99.6	60 - 125		1305896.00	1282155.90	1306181.10
115 In	1354430.60	0.90	1366177.60	99.1	60 - 125		1340586.60	1363252.50	1359452.80
159 Tb	1996892.90	1.13	2052817.90	97.3	60 - 125		1971739.10	2003361.90	2015577.90
209 Bi	1325065.10	0.68	1405468.50	94.3	60 - 125		1318534.80	1335286.10	1321374.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\141_CCB.D\141_CCB.D#
 Date Acquired: Aug 25 2014 03:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002603	0.002603	ug/l	112.22	#VALUE!		10.00	6.67	0.00
11 B #3	1.512	1.512	ug/l	5.67	#VALUE!		4290.58	4427.28	4213.89
23 Na #1	-4.826	-4.826	ug/l	5.40	#VALUE!		75490.92	75564.43	76324.50
24 Mg #1	0.3421	0.3421	ug/l	23.03	#VALUE!		2040.17	1816.80	1656.79
27 Al #1	0.1168	0.1168	ug/l	50.03	#VALUE!		2046.84	1946.82	1713.46
39 K #2	-8.023	-8.023	ug/l	9.01	#VALUE!		9686.12	9829.52	10356.47
40 Ca #1	0.2379	0.2379	ug/l	11.27	#VALUE!		26459.02	26555.83	26028.36
47 Ti #3	-0.0508	-0.0508	ug/l	30.24	#VALUE!		63.34	56.67	33.33
51 V #2	-0.01049	-0.01049	ug/l	33.65	#VALUE!		187.78	198.89	210.00
52 Cr #2	-0.01955	-0.01955	ug/l	8.05	#VALUE!		262.23	258.89	257.78
55 Mn #3	0.01144	0.01144	ug/l	14.05	#VALUE!		1636.78	1616.79	1700.13
56 Fe #1	0.8893	0.8893	ug/l	8.14	#VALUE!		12281.07	11774.06	10963.52
59 Co #3	0.0003916	0.0003916	ug/l	147.24	#VALUE!		70.00	66.67	83.34
60 Ni #2	-0.01094	-0.01094	ug/l	20.43	#VALUE!		35.56	38.89	34.44
63 Cu #2	-0.06605	-0.06605	ug/l	3.10	#VALUE!		208.89	208.89	224.45
66 Zn #3	-0.06375	-0.06375	ug/l	43.36	#VALUE!		490.02	543.36	436.68
75 As #2	-0.00632	-0.00632	ug/l	21.20	#VALUE!		12.33	12.67	12.00
78 Se #1	-0.0211	-0.0211	ug/l	30.51	#VALUE!		17.00	14.00	14.00
88 Sr #3	0.0009629	0.0009629	ug/l	95.64	#VALUE!		160.01	173.34	206.67
95 Mo #3	0.06526	0.06526	ug/l	21.02	#VALUE!		340.01	340.01	443.35
107 Ag #3	-0.001697	-0.001697	ug/l	20.61	#VALUE!		106.67	103.34	103.34
111 Cd #3	0.001443	0.001443	ug/l	97.85	#VALUE!		9.93	13.26	6.57
118 Sn #3	0.1077	0.1077	ug/l	11.54	#VALUE!		1566.80	1550.11	1440.10
121 Sb #3	0.02062	0.02062	ug/l	4.33	#VALUE!		230.01	223.34	223.34
137 Ba #3	0.0008921	0.0008921	ug/l	266.23	#VALUE!		36.67	53.34	36.67
202 Hg #3	0.005462	0.005462	ug/l	78.58	#VALUE!		125.00	150.67	145.67
205 Tl #3	-0.003529	-0.003529	ug/l	13.87	#VALUE!		106.67	110.00	86.67
208 Pb #3	-0.0204	-0.0204	ug/l	8.17	#VALUE!		620.02	736.70	656.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	405125.44	0.61	442436.88	91.6	60 - 125		402549.56	405323.38	407503.31
45 Sc #1	430793.16	0.54	456299.72	94.4	60 - 125		432799.34	431315.28	428264.78
45 Sc #3	711288.06	0.87	765061.25	93.0	60 - 125		704139.69	714341.56	715382.88
74 Ge #1	151625.34	0.25	153441.28	98.8	60 - 125		152054.89	151319.86	151501.28
74 Ge #2	44532.68	1.14	47804.94	93.2	60 - 125		44198.90	44282.50	45116.62
74 Ge #3	217370.27	0.97	224564.78	96.8	60 - 125		215717.22	216661.92	219731.66
89 Y #3	1271661.50	0.69	1302847.50	97.6	60 - 125		1263664.00	1270281.40	1281039.00
115 In #3	1334598.30	1.87	1366177.60	97.7	60 - 125		1307157.80	1340776.00	1355860.90
159 Tb #3	1955979.10	0.37	2052817.90	95.3	60 - 125		1951221.60	1952504.80	1964211.00
209 Bi #3	1325773.80	0.70	1405468.50	94.3	60 - 125		1320341.50	1320439.00	1336540.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\142SMPL.D\142SMPL.D#
 Date Acquired: Aug 25 2014 03:30 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345270_1-a
 Misc Info: 3050 1/5
 Vial Number: 3105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	1.012	1.012	ug/l	6.54	1800.00		3653.76	3540.40	3730.46
23 Na # 1	-2.069	-2.069	ug/l	8.42	81000.00		84893.04	85559.56	85586.28
24 Mg # 1	0.9789	0.9789	ug/l	2.80	81000.00		3390.40	3250.37	3360.38
27 Al # 1	2.294	2.294	ug/l	1.70	81000.00		7925.20	7835.22	8078.58
39 K # 2	-5.004	-5.004	ug/l	8.53	81000.00		10810.06	10716.61	11053.51
40 Ca # 1	6.068	6.068	ug/l	1.29	81000.00		63650.86	63459.91	64537.07
47 Ti # 3	0.05216	0.05216	ug/l	32.11	1620.00		150.01	146.67	180.01
51 V # 2	0.06499	0.06499	ug/l	14.87	1800.00		374.45	418.90	376.67
52 Cr # 2	0.0672	0.0672	ug/l	10.81	1800.00		546.68	507.79	523.35
55 Mn # 3	0.0661	0.0661	ug/l	12.49	1800.00		2676.93	2776.96	2516.90
56 Fe # 1	13.99	13.99	ug/l	0.32	81000.00		121283.54	121374.22	121538.72
59 Co # 3	-0.001013	-0.001013	ug/l	143.04	1800.00		36.67	46.67	76.67
60 Ni # 2	0.05606	0.05606	ug/l	9.15	1800.00		106.67	112.22	120.00
63 Cu # 2	-0.04138	-0.04138	ug/l	23.98	1800.00		256.67	290.01	323.34
66 Zn # 3	0.2748	0.2748	ug/l	5.66	1800.00		1200.07	1183.41	1153.40
75 As # 2	0.01749	0.01749	ug/l	27.32	100.00		20.00	18.67	22.00
78 Se # 1	-0.03779	-0.03779	ug/l	15.37	100.00		10.67	12.00	9.00
88 Sr # 3	0.005519	0.005519	ug/l	9.84	1800.00		300.01	276.68	286.68
95 Mo # 3	0.03409	0.03409	ug/l	15.70	1800.00		256.68	260.01	226.67
107 Ag # 3	-0.00209	-0.00209	ug/l	78.33	100.00		116.67	83.34	96.67
111 Cd # 3	0.005762	0.005762	ug/l	88.88	100.00		23.28	29.94	6.62
118 Sn # 3	2.358	2.358	ug/l	1.73	1800.00		17946.46	17916.28	18723.98
121 Sb # 3	0.01165	0.01165	ug/l	16.95	100.00		150.01	123.34	156.67
137 Ba # 3	0.01684	0.01684	ug/l	20.16	1800.00		96.67	120.00	96.67
202 Hg # 3	-0.01834	-0.01834	ug/l	13.63	5.00		63.67	59.00	74.00
205 Tl # 3	-0.005448	-0.005448	ug/l	10.25	20.00		66.67	43.33	40.00
208 Pb # 3	-0.02019	-0.02019	ug/l	7.83	1800.00		666.70	623.36	733.50
232 Th # 3	0.03411	0.03411	ug/l	5.96	#VALUE!		1703.48	1616.80	1566.80
238 U # 3	0.0007908	0.0007908	ug/l	66.83	#VALUE!		36.67	73.34	76.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	407180.22	0.96	442436.88	92.0	60 - 125		403054.16	407705.31	410781.19
45 Sc # 1	432913.56	0.30	456299.72	94.9	60 - 125		433836.16	431449.22	433455.25
45 Sc # 3	710823.75	0.66	765061.25	92.9	60 - 125		705899.06	711375.38	715196.81
74 Ge # 1	150913.45	0.26	153441.28	98.4	60 - 125		150580.38	150822.48	151337.53
74 Ge # 2	44143.25	0.73	47804.94	92.3	60 - 125		43799.16	44188.91	44441.70
74 Ge # 3	216430.64	0.84	224564.78	96.4	60 - 125		216032.20	214843.75	218415.94
89 Y # 3	1251581.50	0.58	1302847.50	96.1	60 - 125		1246412.30	1259820.00	1248512.00
115 In # 3	1319423.40	1.38	1366177.60	96.6	60 - 125		1300103.60	1321818.10	1336348.80
159 Tb # 3	1944090.80	0.37	2052817.90	94.7	60 - 125		1937323.80	1951782.60	1943165.80
209 Bi # 3	1325871.40	0.91	1405468.50	94.3	60 - 125		1313267.90	1337238.80	1327107.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\143SMPL.D\143SMPL.D#
 Date Acquired: Aug 25 2014 03:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345270_2-a
 Misc Info: 3005 1/5
 Vial Number: 3106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.37	10.37	ug/l	1.45	100.00		18499.07	18348.89	18896.20
11 B # 3	40.03	40.03	ug/l	0.43	1800.00		57922.68	58624.95	59327.72
23 Na # 1	1055	1055	ug/l	0.26	81000.00		3615985.30	3602295.30	3592544.50
24 Mg # 1	1076	1076	ug/l	0.60	81000.00		2533259.30	2510712.80	2496068.00
27 Al # 1	1061	1061	ug/l	0.88	81000.00		2960923.80	2919905.80	2948725.30
39 K # 2	993.2	993.2	ug/l	1.20	81000.00		333152.34	338901.41	345106.03
40 Ca # 1	1097	1097	ug/l	0.40	81000.00		7077671.50	7048710.00	7065438.00
47 Ti # 3	20.49	20.49	ug/l	1.87	1620.00		21769.74	21859.89	22510.60
51 V # 2	19.99	19.99	ug/l	0.23	1800.00		50772.95	51592.98	51734.45
52 Cr # 2	20.7	20.7	ug/l	0.78	1800.00		63935.15	64290.75	65170.36
55 Mn # 3	107	107	ug/l	1.00	1800.00		1982690.40	1991036.00	2031187.30
56 Fe # 1	1106	1106	ug/l	0.19	81000.00		9255732.00	9296822.00	9247817.00
59 Co # 3	10.53	10.53	ug/l	1.34	1800.00		146762.98	148877.06	151625.78
60 Ni # 2	21.37	21.37	ug/l	0.52	1800.00		24263.74	24903.43	24665.36
63 Cu # 2	20.51	20.51	ug/l	0.39	1800.00		64668.97	65297.90	65210.98
66 Zn # 3	20.98	20.98	ug/l	0.88	1800.00		43752.52	43341.60	44277.32
75 As # 2	20.87	20.87	ug/l	0.32	100.00		6942.33	7047.37	7079.71
78 Se # 1	21.1	21.1	ug/l	0.60	100.00		5504.18	5516.51	5484.84
88 Sr # 3	19.38	19.38	ug/l	0.33	1800.00		483021.13	479704.25	483250.72
95 Mo # 3	20.38	20.38	ug/l	0.88	1800.00		79869.01	80176.94	80964.08
107 Ag # 3	10.23	10.23	ug/l	0.92	100.00		112028.59	112437.94	113636.33
111 Cd # 3	10.19	10.19	ug/l	1.54	100.00		24299.90	23996.01	24449.78
118 Sn # 3	43.92	43.92	ug/l	0.82	1800.00		325619.38	329383.75	331908.16
121 Sb # 3	10.27	10.27	ug/l	0.47	100.00		91843.17	92315.67	92080.94
137 Ba # 3	19.96	19.96	ug/l	0.78	1800.00		78968.62	79020.30	79462.27
202 Hg # 3	0.9114	0.9114	ug/l	0.25	5.00		2971.62	2998.63	2971.62
205 Tl # 3	8.01	8.01	ug/l	0.84	20.00		210502.30	214400.56	213213.19
208 Pb # 3	10.22	10.22	ug/l	0.44	1800.00		368747.97	373535.03	369476.13
232 Th # 3	10.38	10.38	ug/l	1.85	#VALUE!		403037.03	408877.19	406353.25
238 U # 3	10.18	10.18	ug/l	1.73	#VALUE!		413352.28	415047.69	415150.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	414079.00	1.49	442436.88	93.6	60 - 125		407292.44	415574.56	419369.97
45 Sc # 1	432877.66	0.29	456299.72	94.9	60 - 125		433295.13	433856.06	431481.72
45 Sc # 3	727733.25	0.57	765061.25	95.1	60 - 125		731260.19	723178.19	728761.44
74 Ge # 1	149829.98	0.33	153441.28	97.6	60 - 125		150074.80	149254.92	150160.23
74 Ge # 2	44188.16	0.91	47804.94	92.4	60 - 125		43727.77	44450.62	44386.08
74 Ge # 3	218119.47	0.30	224564.78	97.1	60 - 125		217586.89	217933.33	218838.20
89 Y # 3	1279763.90	0.16	1302847.50	98.2	60 - 125		1278774.60	1278364.50	1282152.50
115 In # 3	1329667.30	0.73	1366177.60	97.3	60 - 125		1320231.90	1339529.10	1329240.80
159 Tb # 3	1959825.10	0.33	2052817.90	95.5	60 - 125		1958585.10	1966846.30	1954044.10
209 Bi # 3	1307894.00	1.54	1405468.50	93.1	60 - 125		1322270.10	1316574.10	1284837.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\144SMPL.D\144SMPL.D#
 Date Acquired: Aug 25 2014 03:45 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-1-g
 Misc Info: 3005 1/5
 Vial Number: 3107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.621	0.621	ug/l	5.82	100.00		1110.06	1133.40	1020.05
11 B # 3	6.305	6.305	ug/l	0.76	1800.00		10756.51	10936.66	11006.67
23 Na # 1	92.12	92.12	ug/l	0.47	81000.00		417786.75	416531.25	419334.88
24 Mg # 1	11130	11130	ug/l	0.78	81000.00		27413588.00	27047616.00	27243066.00
27 Al # 1	5765	5765	ug/l	0.25	81000.00		16745055.00	16777898.00	16700053.00
39 K # 2	710.4	710.4	ug/l	0.39	81000.00		238337.67	241664.08	244628.22
40 Ca # 1	46140	46140	ug/l	0.30	81000.00		309671870.00	309454140.00	311237660.00
47 Ti # 3	160.1	160.1	ug/l	0.93	1620.00		174320.53	174875.00	177582.63
51 V # 2	17.94	17.94	ug/l	0.54	1800.00		44928.21	45078.47	45848.06
52 Cr # 2	10.01	10.01	ug/l	1.09	1800.00		30689.62	30691.84	30965.62
55 Mn # 3	873.9	873.9	ug/l	0.87	1800.00		15794068.00	15673683.00	15820496.00
56 Fe # 1	22020	22020	ug/l	0.48	81000.00		193447600.00	193791550.00	192136740.00
59 Co # 3	14.75	14.75	ug/l	0.34	1800.00		200818.92	201562.36	202345.39
60 Ni # 2	28.87	28.87	ug/l	2.24	1800.00		32928.20	32457.24	32468.41
63 Cu # 2	56.97	56.97	ug/l	0.94	1800.00		175676.28	176544.22	177808.16
66 Zn # 3	68.49	68.49	ug/l	0.99	1800.00		135945.58	135646.52	138034.14
75 As # 2	14.54	14.54	ug/l	1.33	100.00		4815.98	4762.63	4849.32
78 Se # 1	0.4134	0.4134	ug/l	0.88	100.00		125.00	127.67	125.67
88 Sr # 3	38.45	38.45	ug/l	0.92	1800.00		1165362.80	1174212.80	1168349.80
95 Mo # 3	1.997	1.997	ug/l	1.22	1800.00		7665.17	7655.21	7691.94
107 Ag # 3	0.05358	0.05358	ug/l	14.85	100.00		633.37	633.36	790.04
111 Cd # 3	0.2905	0.2905	ug/l	4.12	100.00		648.35	705.02	658.34
118 Sn # 3	5.325	5.325	ug/l	1.42	1800.00		38657.04	38496.65	39699.47
121 Sb # 3	0.2675	0.2675	ug/l	3.90	100.00		2223.55	2350.24	2460.25
137 Ba # 3	69.34	69.34	ug/l	1.03	1800.00		263459.75	263428.09	265778.66
202 Hg # 3	0.02498	0.02498	ug/l	24.27	5.00		210.34	179.33	212.34
205 Tl # 3	0.2139	0.2139	ug/l	0.74	20.00		5827.93	5891.28	5781.24
208 Pb # 3	28.92	28.92	ug/l	0.83	1800.00		1040149.30	1033638.90	1046023.50
232 Th # 3	3.712	3.712	ug/l	0.28	#VALUE!		140062.89	140028.16	138243.36
238 U # 3	0.9646	0.9646	ug/l	1.84	#VALUE!		37412.94	37509.85	38168.26

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	404658.41	0.58	442436.88	91.5	60 - 125		401999.56	405468.25	406507.44
45 Sc # 1	453443.03	0.11	456299.72	99.4	60 - 125		452861.06	453809.22	453658.84
45 Sc # 3	744952.38	0.85	765061.25	97.4	60 - 125		737731.63	749565.38	747560.06
74 Ge # 1	147948.63	0.52	153441.28	96.4	60 - 125		147821.59	148772.77	147251.52
74 Ge # 2	43379.17	1.55	47804.94	90.7	60 - 125		42779.99	43253.31	44104.20
74 Ge # 3	210467.48	0.50	224564.78	93.7	60 - 125		209283.75	211276.63	210842.11
89 Y # 3	1565135.80	1.11	1302847.50	120.1	60 - 125		1545365.60	1571904.30	1578137.30
115 In # 3	1278416.40	1.29	1366177.60	93.6	60 - 125		1259875.30	1284048.90	1291324.80
159 Tb # 3	1948036.60	0.24	2052817.90	94.9	60 - 125		1948406.90	1952427.50	1943275.80
209 Bi # 3	1254472.60	0.76	1405468.50	89.3	60 - 125		1263216.80	1255946.60	1244254.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\145SMPL.D\145SMPL.D#
 Date Acquired: Aug 25 2014 03:52 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-1-gSD
 Misc Info: 3005 1/25
 Vial Number: 3108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.6755	0.1351	ug/l	1.95	100.00		250.01	243.34	253.34
11 B # 3	8.74	1.748	ug/l	6.70	1800.00		4727.36	4777.36	5050.80
23 Na # 1	73.9	14.78	ug/l	1.23	81000.00		147666.92	146649.33	147062.19
24 Mg # 1	11815	2363	ug/l	1.13	81000.00		5774261.00	5758741.50	5688765.50
27 Al # 1	6140	1228	ug/l	0.64	81000.00		3557927.80	3536307.00	3530154.00
39 K # 2	693.5	138.7	ug/l	2.09	81000.00		59474.09	59972.16	61503.79
40 Ca # 1	48790	9758	ug/l	0.85	81000.00		65756412.00	64558020.00	65104932.00
47 Ti # 3	167.2	33.44	ug/l	1.71	1620.00		36894.39	37290.90	36816.59
51 V # 2	18.29	3.658	ug/l	1.05	1800.00		9824.85	9977.17	10034.98
52 Cr # 2	10.13	2.026	ug/l	1.44	1800.00		6783.49	6794.62	6965.81
55 Mn # 3	888.5	177.7	ug/l	0.80	1800.00		3349758.00	3424281.30	3383681.30
56 Fe # 1	23270	4654	ug/l	0.67	81000.00		40234224.00	40628224.00	40760084.00
59 Co # 3	15.15	3.03	ug/l	0.88	1800.00		43655.49	43992.72	43668.60
60 Ni # 2	30.035	6.007	ug/l	0.81	1800.00		7248.15	7244.80	7160.34
63 Cu # 2	59.45	11.89	ug/l	0.85	1800.00		38974.34	39611.28	39475.37
66 Zn # 3	71.15	14.23	ug/l	1.20	1800.00		30392.23	30732.80	30272.10
75 As # 2	14.675	2.935	ug/l	1.94	100.00		1028.36	1023.70	1062.37
78 Se # 1	0.2155	0.0431	ug/l	24.50	100.00		30.67	36.00	31.00
88 Sr # 3	44.275	8.855	ug/l	1.41	1800.00		235438.13	238449.69	238356.64
95 Mo # 3	1.87	0.374	ug/l	8.90	1800.00		1736.80	1516.78	1560.11
107 Ag # 3	0.03515	0.00703	ug/l	22.33	100.00		220.01	193.34	193.34
111 Cd # 3	0.2884	0.05768	ug/l	2.55	100.00		142.96	149.67	143.00
118 Sn # 3	5.41	1.082	ug/l	1.00	1800.00		8839.16	8979.24	8859.14
121 Sb # 3	0.30705	0.06141	ug/l	2.62	100.00		606.70	590.03	593.36
137 Ba # 3	68.95	13.79	ug/l	1.92	1800.00		55845.60	54811.88	55110.06
202 Hg # 3	-0.0426	-0.00852	ug/l	44.65	5.00		84.67	97.00	109.00
205 Tl # 3	0.1945	0.0389	ug/l	4.13	20.00		1233.42	1186.76	1260.10
208 Pb # 3	29.315	5.863	ug/l	0.29	1800.00		212533.47	214088.30	213078.14
232 Th # 3	3.6305	0.7261	ug/l	2.25	#VALUE!		28537.01	28122.88	29007.91
238 U # 3	0.933	0.1866	ug/l	1.63	#VALUE!		7478.71	7578.79	7748.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	423960.97	0.12	442436.88	95.8	60 - 125		423788.16	423580.34	424514.41
45 Sc # 1	450218.63	0.39	456299.72	98.7	60 - 125		450063.38	448542.75	452049.72
45 Sc # 3	749813.81	1.58	765061.25	98.0	60 - 125		736967.94	752194.69	760278.81
74 Ge # 1	154799.95	0.73	153441.28	100.9	60 - 125		155209.84	155668.98	153521.06
74 Ge # 2	45865.22	0.12	47804.94	95.9	60 - 125		45840.75	45827.33	45927.57
74 Ge # 3	222275.44	0.92	224564.78	99.0	60 - 125		219967.81	222981.97	223876.53
89 Y # 3	1379096.10	0.78	1302847.50	105.9	60 - 125		1388914.40	1380745.40	1367628.50
115 In # 3	1343964.30	0.98	1366177.60	98.4	60 - 125		1328824.30	1349895.80	1353172.90
159 Tb # 3	1959573.50	0.65	2052817.90	95.5	60 - 125		1947138.80	1972582.50	1958999.40
209 Bi # 3	1303319.40	1.14	1405468.50	92.7	60 - 125		1287703.00	1317273.40	1304982.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\146SMPL.D\146SMPL.D#
 Date Acquired: Aug 25 2014 04:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-1-gPDS
 Misc Info: 3005 1/5
 Vial Number: 3109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.95	20.95	ug/l	0.99	100.00		38561.57	38100.75	38207.72
11 B #3	45.43	45.43	ug/l	1.59	1800.00		66145.54	68540.37	68111.93
23 Na #1	2107	2107	ug/l	1.06	81000.00		7705598.00	7692628.00	7848951.50
24 Mg #1	13040	13040	ug/l	0.32	81000.00		33087740.00	33292292.00	33261246.00
27 Al #1	5905	5905	ug/l	0.48	81000.00		17753446.00	17922480.00	17873612.00
39 K #2	2747	2747	ug/l	0.66	81000.00		918481.63	932909.88	944061.00
40 Ca #1	47810	47810	ug/l	0.05	81000.00		334169600.00	334395580.00	334895100.00
47 Ti #3	176.8	176.8	ug/l	0.16	1620.00		204326.02	205498.86	206394.66
51 V #2	38.48	38.48	ug/l	0.70	1800.00		100403.03	99698.33	101086.75
52 Cr #2	30.56	30.56	ug/l	0.51	1800.00		95876.66	96760.11	97510.49
55 Mn #3	1072	1072	ug/l	0.41	1800.00		20008350.00	20074020.00	20112224.00
56 Fe #1	23750	23750	ug/l	0.35	81000.00		215916780.00	217287890.00	217392190.00
59 Co #3	35.19	35.19	ug/l	0.31	1800.00		497016.03	498265.31	500257.19
60 Ni #2	49.54	49.54	ug/l	0.58	1800.00		57542.15	58038.02	58391.54
63 Cu #2	77.56	77.56	ug/l	0.56	1800.00		247540.55	249161.03	250791.92
66 Zn #3	88.16	88.16	ug/l	0.84	1800.00		179681.73	182705.72	184007.20
75 As #2	35.34	35.34	ug/l	0.39	100.00		11963.25	12020.29	12301.81
78 Se #1	21.32	21.32	ug/l	0.33	100.00		5720.24	5691.90	5692.23
88 Sr #3	54.02	54.02	ug/l	0.25	1800.00		1686572.00	1681902.60	1703645.40
95 Mo #3	22.92	22.92	ug/l	1.16	1800.00		88884.54	88144.27	88928.13
107 Ag #3	19.86	19.86	ug/l	1.05	100.00		215088.70	213643.88	215051.42
111 Cd #3	20.51	20.51	ug/l	0.70	100.00		48017.15	47839.96	47719.78
118 Sn #3	26.01	26.01	ug/l	0.23	1800.00		191310.33	193030.44	189896.64
121 Sb #3	20.61	20.61	ug/l	0.18	100.00		180443.75	182728.00	180477.28
137 Ba #3	89.17	89.17	ug/l	1.00	1800.00		346185.69	345747.91	348195.88
202 Hg #3	1.017	1.017	ug/l	1.06	5.00		3371.37	3289.01	3382.71
205 Tl #3	4.05	4.05	ug/l	0.92	20.00		108223.50	109049.84	109237.70
208 Pb #3	47.41	47.41	ug/l	0.93	1800.00		1726914.10	1740197.50	1733600.80
232 Th #3	24.83	24.83	ug/l	0.38	#VALUE!		937368.44	935222.81	942471.88
238 U #3	21.16	21.16	ug/l	0.44	#VALUE!		828906.38	834922.88	833640.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	422606.91	0.36	442436.88	95.5	60 - 125		420845.75	423536.88	423438.13
45 Sc #1	472004.94	0.08	456299.72	103.4	60 - 125		471845.28	471758.53	472411.00
45 Sc #3	789115.25	0.66	765061.25	103.1	60 - 125		783910.31	789115.63	794319.75
74 Ge #1	153642.55	0.30	153441.28	100.1	60 - 125		153848.08	153965.08	153114.45
74 Ge #2	44961.86	1.11	47804.94	94.1	60 - 125		44617.66	44735.79	45532.15
74 Ge #3	218296.16	0.60	224564.78	97.2	60 - 125		217441.22	217641.81	219805.44
89 Y #3	1610653.60	0.43	1302847.50	123.6	60 - 125		1607518.10	1605802.00	1618640.80
115 In #3	1304472.80	0.67	1366177.60	95.5	60 - 125		1301607.90	1314332.90	1297477.10
159 Tb #3	1981583.80	0.55	2052817.90	96.5	60 - 125		1990178.50	1969235.80	1985337.00
209 Bi #3	1263905.90	0.59	1405468.50	89.9	60 - 125		1257037.10	1262917.80	1271762.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\147SMPL.D\147SMPL.D#
 Date Acquired: Aug 25 2014 04:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-1-h.ms
 Misc Info: 3005 1/5
 Vial Number: 3110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	11.18	11.18	ug/l	2.00	100.00		20627.84	20217.48	20461.00
11 B #3	39.6	39.6	ug/l	0.82	1800.00		59066.78	59337.77	59213.70
23 Na #1	1061	1061	ug/l	1.91	81000.00		4095067.50	4180126.30	4047333.80
24 Mg #1	7772	7772	ug/l	1.37	81000.00		20678496.00	20636280.00	20410826.00
27 Al #1	12780	12780	ug/l	1.05	81000.00		40304428.00	40028156.00	40125112.00
39 K #2	2368	2368	ug/l	1.87	81000.00		810231.63	800638.50	828593.44
40 Ca #1	17820	17820	ug/l	1.46	81000.00		130315260.00	130111320.00	128413240.00
47 Ti #3	138	138	ug/l	1.54	1620.00		166894.23	169801.80	169307.02
51 V #2	45.36	45.36	ug/l	0.44	1800.00		119801.07	118907.55	119911.68
52 Cr #2	38.93	38.93	ug/l	0.77	1800.00		123959.37	124052.20	125114.82
55 Mn #3	736.2	736.2	ug/l	0.96	1800.00		14076193.00	14037696.00	14066103.00
56 Fe #1	30050	30050	ug/l	1.05	81000.00		286156160.00	285266110.00	284414180.00
59 Co #3	26.63	26.63	ug/l	1.23	1800.00		385810.91	385597.69	383809.88
60 Ni #2	54.51	54.51	ug/l	0.80	1800.00		64173.62	64805.85	64410.09
63 Cu #2	61.9	61.9	ug/l	0.36	1800.00		201651.77	200035.22	201443.58
66 Zn #3	115.7	115.7	ug/l	0.71	1800.00		242633.75	244360.48	244431.64
75 As #2	33.82	33.82	ug/l	0.31	100.00		11756.79	11630.37	11699.75
78 Se #1	21.31	21.31	ug/l	2.02	100.00		5772.26	5637.88	5569.53
88 Sr #3	46.6	46.6	ug/l	0.85	1800.00		1541534.00	1541790.80	1550298.10
95 Mo #3	21.3	21.3	ug/l	1.89	1800.00		84486.89	83053.55	83743.29
107 Ag #3	10.17	10.17	ug/l	1.48	100.00		112203.13	111804.01	111391.88
111 Cd #3	10.4	10.4	ug/l	1.89	100.00		24792.89	24299.16	24933.30
118 Sn #3	44.96	44.96	ug/l	0.68	1800.00		334165.09	335735.03	337875.53
121 Sb #3	3.776	3.776	ug/l	0.66	100.00		33613.30	33887.21	33900.46
137 Ba #3	106.1	106.1	ug/l	1.26	1800.00		419968.84	417977.97	420035.81
202 Hg #3	0.9254	0.9254	ug/l	1.09	5.00		3068.31	3051.96	3067.97
205 Tl #3	7.73	7.73	ug/l	0.70	20.00		207419.47	207476.19	208768.77
208 Pb #3	48.58	48.58	ug/l	1.21	1800.00		1785525.40	1774656.30	1777133.90
232 Th #3	16.09	16.09	ug/l	0.44	#VALUE!		611454.56	611136.69	613432.94
238 U #3	10.88	10.88	ug/l	0.94	#VALUE!		431427.66	427765.41	433412.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	422575.03	1.01	442436.88	95.5	60 - 125		417842.13	426146.63	423736.28
45 Sc #1	490720.44	0.74	456299.72	107.5	60 - 125		486650.75	491789.91	493720.59
45 Sc #3	830120.88	1.95	765061.25	108.5	60 - 125		816246.94	826193.50	847922.19
74 Ge #1	152622.45	0.69	153441.28	99.5	60 - 125		152113.58	153836.11	151917.70
74 Ge #2	45430.42	0.35	47804.94	95.0	60 - 125		45614.54	45335.01	45341.71
74 Ge #3	222851.42	0.95	224564.78	99.2	60 - 125		221120.33	222210.59	225223.36
89 Y #3	1705799.00	1.16	1302847.50	130.9	60 - 125	IS I	1688990.90	1700879.50	1727526.90
115 In #3	1326501.90	1.13	1366177.60	97.1	60 - 125		1309447.60	1332588.30	1337469.80
159 Tb #3	1984806.40	0.91	2052817.90	96.7	60 - 125		1964584.40	1990834.80	1999000.40
209 Bi #3	1271728.30	0.35	1405468.50	90.5	60 - 125		1267453.30	1276358.90	1271372.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\148SMPL.D\148SMPL.D#
 Date Acquired: Aug 25 2014 04:14 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-1-i msd
 Misc Info: 3005 1/5
 Vial Number: 3111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	11.49	11.49	ug/l	1.48	100.00		21412.12	21058.34	21705.77
11 B # 3	39.88	39.88	ug/l	0.68	1800.00		60945.27	60427.43	60771.81
23 Na # 1	987.2	987.2	ug/l	0.65	81000.00		4154871.50	4223097.50	4214546.00
24 Mg # 1	7051	7051	ug/l	0.58	81000.00		20342720.00	20392676.00	20632504.00
27 Al # 1	18530	18530	ug/l	0.45	81000.00		63466084.00	63718072.00	64278412.00
39 K # 2	2837	2837	ug/l	0.18	81000.00		1006383.60	1018831.90	1025687.80
40 Ca # 1	10980	10980	ug/l	0.36	81000.00		87582720.00	87591816.00	87395296.00
47 Ti # 3	168.1	168.1	ug/l	0.26	1620.00		223212.08	224345.83	226673.28
51 V # 2	61.32	61.32	ug/l	0.15	1800.00		167295.16	168902.59	170870.27
52 Cr # 2	43.87	43.87	ug/l	0.23	1800.00		145496.83	146804.80	147603.80
55 Mn # 3	834.6	834.6	ug/l	1.07	1800.00		16186333.00	16279423.00	16512548.00
56 Fe # 1	44650	44650	ug/l	0.80	81000.00		463467550.00	468402340.00	461405470.00
59 Co # 3	30.85	30.85	ug/l	0.26	1800.00		454191.13	459452.34	457354.84
60 Ni # 2	62.96	62.96	ug/l	0.41	1800.00		77527.32	77591.00	78604.14
63 Cu # 2	71.66	71.66	ug/l	0.79	1800.00		243159.41	243345.47	243804.02
66 Zn # 3	166.9	166.9	ug/l	0.65	1800.00		357039.56	360338.94	362154.06
75 As # 2	50.71	50.71	ug/l	0.44	100.00		18224.40	18244.09	18551.39
78 Se # 1	20.39	20.39	ug/l	1.15	100.00		5665.89	5624.21	5729.91
88 Sr # 3	37	37	ug/l	0.49	1800.00		1300982.10	1313760.60	1310504.60
95 Mo # 3	23.54	23.54	ug/l	0.49	1800.00		93810.25	95515.10	95794.40
107 Ag # 3	10.3	10.3	ug/l	0.30	100.00		115175.98	116850.74	116692.62
111 Cd # 3	10.52	10.52	ug/l	0.65	100.00		25595.41	25498.16	25785.24
118 Sn # 3	44.07	44.07	ug/l	1.08	1800.00		338620.69	334593.75	340755.50
121 Sb # 3	3.862	3.862	ug/l	1.98	100.00		35978.16	35413.45	35049.44
137 Ba # 3	127.5	127.5	ug/l	0.67	1800.00		515121.81	514194.53	522424.06
202 Hg # 3	0.9371	0.9371	ug/l	0.84	5.00		3106.32	3135.32	3221.33
205 Tl # 3	8.052	8.052	ug/l	1.12	20.00		220695.31	219885.31	220322.91
208 Pb # 3	39.35	39.35	ug/l	0.44	1800.00		1456014.40	1465654.50	1477393.90
232 Th # 3	20.47	20.47	ug/l	0.57	#VALUE!		790530.38	792357.56	797172.19
238 U # 3	11.28	11.28	ug/l	0.61	#VALUE!		452416.13	454190.41	459774.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	430401.69	0.30	442436.88	97.3	60 - 125		428947.34	430805.03	431452.69
45 Sc # 1	537712.75	0.27	456299.72	117.8	60 - 125		536091.06	538278.63	538768.56
45 Sc # 3	908122.06	0.89	765061.25	118.7	60 - 125		899637.56	908962.88	915765.81
74 Ge # 1	159839.39	0.25	153441.28	104.2	60 - 125		159603.47	160303.19	159611.52
74 Ge # 2	47537.60	0.92	47804.94	99.4	60 - 125		47105.02	47530.59	47977.20
74 Ge # 3	228244.14	0.37	224564.78	101.6	60 - 125		227531.38	229168.84	228032.19
89 Y # 3	1820009.80	0.41	1302847.50	139.7	60 - 125	IS I	1814438.50	1817114.50	1828476.30
115 In # 3	1361503.40	0.66	1366177.60	99.7	60 - 125		1351564.80	1363973.80	1368971.50
159 Tb # 3	2019431.30	1.09	2052817.90	98.4	60 - 125		2003035.60	2010861.00	2044397.30
209 Bi # 3	1296456.40	0.82	1405468.50	92.2	60 - 125		1284189.80	1301899.30	1303279.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\149SMPL.D\149SMPL.D#
 Date Acquired: Aug 25 2014 04:22 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-2-c
 Misc Info: 3005 1/5
 Vial Number: 3112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.438	1.438	ug/l	6.63	100.00		2573.57	2413.55	2260.20
11 B # 3	3.684	3.684	ug/l	6.34	1800.00		7071.47	6964.74	6941.40
23 Na # 1	51.04	51.04	ug/l	1.20	81000.00		316146.63	315489.63	315041.81
24 Mg # 1	3989	3989	ug/l	0.66	81000.00		11212345.00	11216482.00	11213150.00
27 Al # 1	16040	16040	ug/l	0.26	81000.00		53329752.00	53799700.00	53382108.00
39 K # 2	1415	1415	ug/l	0.65	81000.00		490862.13	488323.47	489155.00
40 Ca # 1	1918	1918	ug/l	0.72	81000.00		14703071.00	14874561.00	14949465.00
47 Ti # 3	148.6	148.6	ug/l	2.11	1620.00		171201.22	166625.89	164591.00
51 V # 2	38.46	38.46	ug/l	0.26	1800.00		102364.68	100244.40	100531.37
52 Cr # 2	25.98	25.98	ug/l	0.38	1800.00		84010.22	81974.67	82524.83
55 Mn # 3	1366	1366	ug/l	0.89	1800.00		23862750.00	23373170.00	23151042.00
56 Fe # 1	43460	43460	ug/l	0.61	81000.00		438115360.00	438741630.00	437084510.00
59 Co # 3	24.62	24.62	ug/l	1.18	1800.00		326627.88	319561.50	314285.50
60 Ni # 2	37.29	37.29	ug/l	0.38	1800.00		44219.21	43762.56	43921.84
63 Cu # 2	26.11	26.11	ug/l	0.55	1800.00		85763.95	84536.27	84001.54
66 Zn # 3	101.7	101.7	ug/l	1.19	1800.00		196686.84	191364.78	190428.91
75 As # 2	15.66	15.66	ug/l	0.44	100.00		5483.17	5362.46	5365.13
78 Se # 1	0.4494	0.4494	ug/l	2.15	100.00		144.33	143.00	147.33
88 Sr # 3	11.13	11.13	ug/l	0.92	1800.00		374519.00	372229.41	370082.34
95 Mo # 3	1.905	1.905	ug/l	2.54	1800.00		7184.99	6994.92	7148.29
107 Ag # 3	0.03597	0.03597	ug/l	5.82	100.00		503.36	500.02	450.02
111 Cd # 3	0.3738	0.3738	ug/l	4.58	100.00		888.47	808.51	811.80
118 Sn # 3	2.774	2.774	ug/l	1.64	1800.00		20092.03	19981.99	19972.01
121 Sb # 3	0.2421	0.2421	ug/l	1.65	100.00		2126.86	2070.18	1993.50
137 Ba # 3	135.5	135.5	ug/l	1.41	1800.00		504545.31	500253.06	499130.78
202 Hg # 3	0.01858	0.01858	ug/l	40.55	5.00		204.01	160.67	169.67
205 Tl # 3	0.2565	0.2565	ug/l	1.53	20.00		6905.04	6808.33	6858.36
208 Pb # 3	23.32	23.32	ug/l	1.11	1800.00		830317.06	824683.75	825408.94
232 Th # 3	10.26	10.26	ug/l	1.40	#VALUE!		381919.50	380393.16	382219.53
238 U # 3	1.527	1.527	ug/l	0.83	#VALUE!		59522.84	59281.74	58622.63

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	388457.00	4.35	442436.88	87.8	60 - 125		384446.66	407011.13	373913.22
45 Sc # 1	521030.50	0.68	456299.72	114.2	60 - 125		517772.13	524802.81	520516.53
45 Sc # 3	766050.13	3.66	765061.25	100.1	60 - 125		789182.88	774085.38	734882.19
74 Ge # 1	158380.73	0.45	153441.28	103.2	60 - 125		157823.81	159193.33	158125.06
74 Ge # 2	45270.75	0.90	47804.94	94.7	60 - 125		45727.04	44948.48	45136.73
74 Ge # 3	200377.63	0.84	224564.78	89.2	60 - 125		201756.73	200870.72	198505.41
89 Y # 3	1720601.60	1.37	1302847.50	132.1	60 - 125	IS 1	1734432.60	1734017.60	1693354.50
115 In # 3	1241174.90	1.78	1366177.60	90.9	60 - 125		1256975.90	1250619.80	1215929.10
159 Tb # 3	1920202.60	1.02	2052817.90	93.5	60 - 125		1921263.30	1939211.00	1900133.80
209 Bi # 3	1243513.90	1.15	1405468.50	88.5	60 - 125		1243164.10	1258025.90	1229351.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\150SMPL.D\150SMPL.D#
 Date Acquired: Aug 25 2014 04:29 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-3-b
 Misc Info: 3005 1/5
 Vial Number: 3201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.541	1.541	ug/l	6.06	100.00		2453.55	2623.58	2350.21
11 B # 3	7.995	7.995	ug/l	3.84	1800.00		11560.38	12307.46	12557.69
23 Na # 1	845.7	845.7	ug/l	6.36	81000.00		2827110.00	2778510.80	2798329.80
24 Mg # 1	1155	1155	ug/l	6.07	81000.00		2619266.80	2590737.00	2586638.00
27 Al # 1	24870	24870	ug/l	5.71	81000.00		66698264.00	65938144.00	66619664.00
39 K # 2	2242	2242	ug/l	1.56	81000.00		666079.06	684593.63	693844.56
40 Ca # 1	10160	10160	ug/l	5.61	81000.00		63037152.00	62351600.00	63137360.00
47 Ti # 3	246.2	246.2	ug/l	1.15	1620.00		271448.84	279877.66	281626.25
51 V # 2	67.34	67.34	ug/l	1.17	1800.00		154560.48	156491.98	159410.52
52 Cr # 2	28.33	28.33	ug/l	0.70	1800.00		79892.62	79793.28	80663.53
55 Mn # 3	506.7	506.7	ug/l	0.79	1800.00		8639167.00	8826036.00	8869869.00
56 Fe # 1	27250	27250	ug/l	6.30	81000.00		222220460.00	216991540.00	220192180.00
59 Co # 3	6.736	6.736	ug/l	0.78	1800.00		86856.19	89000.06	89378.80
60 Ni # 2	15.26	15.26	ug/l	1.21	1800.00		15920.26	15835.71	16197.17
63 Cu # 2	23.01	23.01	ug/l	0.72	1800.00		66035.04	66019.33	66833.30
66 Zn # 3	69.38	69.38	ug/l	0.35	1800.00		130415.98	133182.84	134898.55
75 As # 2	29.42	29.42	ug/l	1.13	100.00		8833.48	9027.24	9128.28
78 Se # 1	0.3937	0.3937	ug/l	11.93	100.00		113.33	107.00	100.33
88 Sr # 3	104.2	104.2	ug/l	0.14	1800.00		3214532.80	3248949.00	3279947.50
95 Mo # 3	1.876	1.876	ug/l	1.80	1800.00		6871.54	7214.98	7141.63
107 Ag # 3	0.05956	0.05956	ug/l	5.98	100.00		733.37	693.37	776.71
111 Cd # 3	0.1791	0.1791	ug/l	11.98	100.00		348.50	445.10	431.78
118 Sn # 3	5.848	5.848	ug/l	0.89	1800.00		40985.86	41814.54	42933.76
121 Sb # 3	0.7779	0.7779	ug/l	3.32	100.00		6404.69	6478.08	6968.30
137 Ba # 3	110.6	110.6	ug/l	0.42	1800.00		409270.09	413537.59	417891.81
202 Hg # 3	0.01242	0.01242	ug/l	35.40	5.00		169.68	149.33	151.00
205 Tl # 3	0.2097	0.2097	ug/l	5.56	20.00		5806.56	5441.06	5411.09
208 Pb # 3	43.38	43.38	ug/l	0.99	1800.00		1500530.60	1516774.10	1522514.80
232 Th # 3	3.068	3.068	ug/l	0.69	#VALUE!		113770.05	115794.81	114680.39
238 U # 3	0.9728	0.9728	ug/l	1.68	#VALUE!		37964.41	37469.58	38077.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	371440.66	1.15	442436.88	84.0	60 - 125		367160.31	371438.13	375723.59
45 Sc # 1	417866.72	5.22	456299.72	91.6	60 - 125		392938.75	427127.59	433533.81
45 Sc # 3	766466.25	3.08	765061.25	100.2	60 - 125		739916.81	774372.06	785109.81
74 Ge # 1	130969.01	3.90	153441.28	85.4	60 - 125		125196.80	132807.61	134902.61
74 Ge # 2	40165.64	0.62	47804.94	84.0	60 - 125		39879.06	40328.94	40288.92
74 Ge # 3	202128.09	1.95	224564.78	90.0	60 - 125		198199.61	202100.23	206084.45
89 Y # 3	1604053.10	0.87	1302847.50	123.1	60 - 125		1590108.80	1604041.30	1618009.40
115 In # 3	1254368.40	1.47	1366177.60	91.8	60 - 125		1236067.10	1254203.30	1272834.60
159 Tb # 3	1890491.90	1.62	2052817.90	92.1	60 - 125		1863709.50	1883985.00	1923781.00
209 Bi # 3	1248601.80	1.19	1405468.50	88.8	60 - 125		1231412.90	1256753.40	1257639.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\151SMPL.D\151SMPL.D#
 Date Acquired: Aug 25 2014 04:36 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-4-b
 Misc Info: 3005 1/5
 Vial Number: 3202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.537	1.537	ug/l	4.04	100.00		2680.24	2523.55	2606.90
11 B # 3	8.792	8.792	ug/l	1.19	1800.00		13491.64	13988.65	14098.74
23 Na # 1	859.3	859.3	ug/l	0.71	81000.00		3287726.30	3324925.30	3313720.30
24 Mg # 1	1206	1206	ug/l	1.64	81000.00		3165587.80	3169613.80	3130430.80
27 Al # 1	24870	24870	ug/l	1.32	81000.00		77365096.00	77288784.00	77038424.00
39 K # 2	2637	2637	ug/l	0.96	81000.00		859621.88	879506.44	896908.75
40 Ca # 1	9749	9749	ug/l	1.51	81000.00		70126376.00	70614000.00	69558976.00
47 Ti # 3	269.7	269.7	ug/l	0.38	1620.00		330096.56	330996.84	336096.63
51 V # 2	70.98	70.98	ug/l	0.39	1800.00		179402.81	182333.92	183175.84
52 Cr # 2	33.68	33.68	ug/l	0.68	1800.00		103246.62	104510.13	106068.76
55 Mn # 3	600.8	600.8	ug/l	0.38	1800.00		11125950.00	11196041.00	11325630.00
56 Fe # 1	32830	32830	ug/l	1.49	81000.00		309136640.00	307947650.00	306904220.00
59 Co # 3	8.33	8.33	ug/l	0.24	1800.00		117232.52	118006.88	118171.77
60 Ni # 2	20.26	20.26	ug/l	0.59	1800.00		23077.75	23380.39	23468.24
63 Cu # 2	32.45	32.45	ug/l	0.94	1800.00		101872.56	102373.15	103570.75
66 Zn # 3	77.72	77.72	ug/l	0.65	1800.00		157928.20	161260.69	161586.83
75 As # 2	37.31	37.31	ug/l	0.94	100.00		12374.19	12485.93	12741.77
78 Se # 1	0.4322	0.4322	ug/l	6.10	100.00		124.00	129.00	136.67
88 Sr # 3	104.3	104.3	ug/l	0.36	1800.00		3545039.00	3586724.00	3638408.30
95 Mo # 3	2.378	2.378	ug/l	2.98	1800.00		9152.59	9316.06	9736.31
107 Ag # 3	0.05538	0.05538	ug/l	15.50	100.00		836.71	673.37	670.03
111 Cd # 3	0.1739	0.1739	ug/l	7.07	100.00		451.34	394.63	404.54
118 Sn # 3	6.47	6.47	ug/l	0.94	1800.00		48281.06	48455.07	49284.18
121 Sb # 3	1.03	1.03	ug/l	3.48	100.00		9269.39	8785.80	9542.99
137 Ba # 3	116.8	116.8	ug/l	0.90	1800.00		457179.69	460254.88	460717.38
202 Hg # 3	0.1017	0.1017	ug/l	8.44	5.00		439.01	417.01	473.02
205 Tl # 3	0.2209	0.2209	ug/l	1.17	20.00		6061.36	6068.01	6058.00
208 Pb # 3	45.87	45.87	ug/l	0.76	1800.00		1654061.80	1662001.50	1666525.80
232 Th # 3	3.371	3.371	ug/l	1.07	#VALUE!		126727.21	128869.22	131499.52
238 U # 3	1.136	1.136	ug/l	0.71	#VALUE!		44582.02	45163.82	45889.15

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391619.66	1.46	442436.88	88.5	60 - 125		385623.31	392265.97	396969.63
45 Sc # 1	485026.47	1.13	456299.72	106.3	60 - 125		478822.13	487006.72	489250.53
45 Sc # 3	837293.69	1.30	765061.25	109.4	60 - 125		831263.88	830738.00	849879.13
74 Ge # 1	146769.39	0.65	153441.28	95.7	60 - 125		146407.86	147856.08	146044.20
74 Ge # 2	44146.18	1.45	47804.94	92.3	60 - 125		43410.34	44450.61	44577.58
74 Ge # 3	217798.86	0.65	224564.78	97.0	60 - 125		216240.36	218139.38	219016.84
89 Y # 3	1771736.90	1.46	1302847.50	136.0	60 - 125	IS I	1743634.80	1776773.50	1794802.00
115 In # 3	1319040.90	0.72	1366177.60	96.5	60 - 125		1322359.80	1308342.10	1326420.90
159 Tb # 3	1962438.30	1.13	2052817.90	95.6	60 - 125		1937400.60	1970811.60	1979102.30
209 Bi # 3	1277934.10	0.91	1405468.50	90.9	60 - 125		1264689.10	1282470.90	1286642.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\152_CCV.D\152_CCV.D#
 Date Acquired: Aug 25 2014 04:43 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.66 ug/l	0.58	50.00	89.5 - 110		83597.84	84715.66	86416.27
11 B	99.59 ug/l	1.26	100.00	89.5 - 110		130211.73	133633.80	136071.47
23 Na	5127 ug/l	0.80	5000.00	89.5 - 110		16685413.00	16856198.00	16529806.00
24 Mg	5136 ug/l	0.13	5000.00	89.5 - 110		11658961.00	11699961.00	11636510.00
27 Al	520.9 ug/l	0.56	500.00	89.5 - 110		1408922.00	1400499.80	1407597.00
39 K	4779 ug/l	1.84	5000.00	89.5 - 110		1527138.30	1571928.50	1609607.60
40 Ca	5220 ug/l	0.45	5000.00	89.5 - 110		32434260.00	32854780.00	32496436.00
47 Ti	51.62 ug/l	0.69	50.00	89.5 - 110		54673.54	53717.22	54894.00
51 V	49.56 ug/l	0.66	50.00	89.5 - 110		124497.16	126236.36	126883.82
52 Cr	49.5 ug/l	0.87	50.00	89.5 - 110		150845.06	152428.70	153821.33
55 Mn	501.1 ug/l	0.84	500.00	89.5 - 110		9379092.00	9270811.00	9437457.00
56 Fe	5428 ug/l	0.84	5000.00	89.5 - 110		43758108.00	44696348.00	44176740.00
59 Co	49.62 ug/l	0.38	50.00	89.5 - 110		698063.75	699805.38	707987.19
60 Ni	50.9 ug/l	0.55	50.00	89.5 - 110		57134.20	58332.32	58621.00
63 Cu	50.28 ug/l	0.91	50.00	89.5 - 110		155703.63	157484.03	159229.58
66 Zn	48.93 ug/l	1.08	50.00	89.5 - 110		99931.22	100865.67	102869.61
75 As	50.61 ug/l	1.21	50.00	89.5 - 110		16756.00	16805.38	17026.90
78 Se	51.42 ug/l	0.30	50.00	89.5 - 110		13125.07	13248.82	13162.43
88 Sr	49.21 ug/l	0.65	50.00	89.5 - 110		1201934.10	1217280.30	1216380.90
95 Mo	50.45 ug/l	0.57	50.00	89.5 - 110		194191.89	196174.55	198046.50
107 Ag	48.98 ug/l	0.55	50.00	89.5 - 110		526980.13	531593.63	538071.50
111 Cd	49.78 ug/l	0.96	50.00	89.5 - 110		116386.02	115335.16	118888.44
118 Sn	50.13 ug/l	0.60	50.00	89.5 - 110		366601.34	370361.59	374325.16
121 Sb	49.36 ug/l	0.11	50.00	89.5 - 110		434649.16	435421.50	439618.44
137 Ba	49.53 ug/l	0.44	50.00	89.5 - 110		192825.36	193936.34	194464.81
202 Hg	2.486 ug/l	1.12	2.50	89.5 - 110		7723.88	7889.32	7940.32
205 Tl	9.791 ug/l	0.15	10.00	89.5 - 110		256667.13	257516.69	259162.63
208 Pb	48.73 ug/l	0.15	50.00	89.5 - 110		1738720.00	1747096.30	1756523.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	387441.22	1.16	442436.88	87.6	60 - 125		383966.19	385827.28	392530.16
45 Sc	420968.59	0.24	456299.72	92.3	60 - 125		420242.66	422131.06	420532.03
45 Sc	715306.69	1.04	765061.25	93.5	60 - 125		712925.94	709363.38	723630.81
74 Ge	147560.66	0.40	153441.28	96.2	60 - 125		146872.58	147946.63	147862.75
74 Ge	43794.27	1.33	47804.94	91.6	60 - 125		43138.68	44254.59	43989.56
74 Ge	217997.30	0.42	224564.78	97.1	60 - 125		217107.03	217966.27	218918.59
89 Y	1267422.80	0.94	1302847.50	97.3	60 - 125		1257047.90	1264801.30	1280419.40
115 In	1312144.10	0.64	1366177.60	96.0	60 - 125		1307582.50	1307080.10	1321769.90
159 Tb	1943511.90	0.36	2052817.90	94.7	60 - 125		1936601.90	1943363.80	1950569.50
209 Bi	1287888.40	1.06	1405468.50	91.6	60 - 125		1276935.00	1283519.30	1303211.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\153_CCB.D\153_CCB.D#
 Date Acquired: Aug 25 2014 04:51 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003846	0.003846	ug/l	28.50	#VALUE!		6.67	10.00	6.67
11 B # 3	1.543	1.543	ug/l	7.21	#VALUE!		4523.96	4257.23	4320.60
23 Na # 1	-6.426	-6.426	ug/l	3.51	#VALUE!		69743.06	71047.75	70448.58
24 Mg # 1	0.383	0.383	ug/l	7.13	#VALUE!		1943.49	1980.16	1866.81
27 Al # 1	0.7534	0.7534	ug/l	8.83	#VALUE!		3470.41	3640.45	3850.49
39 K # 2	-8.722	-8.722	ug/l	9.80	#VALUE!		10079.62	9766.12	9599.34
40 Ca # 1	0.6183	0.6183	ug/l	8.45	#VALUE!		28682.26	28361.78	29187.55
47 Ti # 3	-0.05796	-0.05796	ug/l	6.16	#VALUE!		46.67	40.00	46.67
51 V # 2	-0.007061	-0.007061	ug/l	80.71	#VALUE!		222.23	193.34	213.34
52 Cr # 2	-0.02209	-0.02209	ug/l	16.51	#VALUE!		252.23	265.56	244.45
55 Mn # 3	0.03206	0.03206	ug/l	16.40	#VALUE!		1943.49	2103.52	2140.19
56 Fe # 1	2.365	2.365	ug/l	0.89	#VALUE!		23819.14	23789.16	24219.65
59 Co # 3	0.00103	0.00103	ug/l	150.39	#VALUE!		106.67	80.00	63.34
60 Ni # 2	-0.01124	-0.01124	ug/l	26.65	#VALUE!		35.56	40.00	33.33
63 Cu # 2	-0.06321	-0.06321	ug/l	6.60	#VALUE!		227.78	210.00	237.78
66 Zn # 3	-0.1125	-0.1125	ug/l	24.52	#VALUE!		413.35	330.01	443.35
75 As # 2	0.006684	0.006684	ug/l	106.87	#VALUE!		19.00	17.33	14.33
78 Se # 1	-0.03147	-0.03147	ug/l	26.87	#VALUE!		13.67	13.33	9.67
88 Sr # 3	0.00332	0.00332	ug/l	20.10	#VALUE!		256.68	233.34	230.01
95 Mo # 3	0.02972	0.02972	ug/l	3.79	#VALUE!		233.34	240.01	233.34
107 Ag # 3	-0.002581	-0.002581	ug/l	28.65	#VALUE!		103.34	86.67	96.67
111 Cd # 3	0.001414	0.001414	ug/l	0.88	#VALUE!		9.95	9.95	9.95
118 Sn # 3	0.09906	0.09906	ug/l	3.05	#VALUE!		1466.77	1486.77	1450.10
121 Sb # 3	0.01844	0.01844	ug/l	14.52	#VALUE!		203.34	233.34	186.67
137 Ba # 3	0.0033	0.0033	ug/l	89.03	#VALUE!		40.00	63.34	53.34
202 Hg # 3	0.002527	0.002527	ug/l	177.48	#VALUE!		141.34	136.34	116.33
205 Tl # 3	-0.0014	-0.0014	ug/l	51.56	#VALUE!		136.67	160.01	176.67
208 Pb # 3	-0.02085	-0.02085	ug/l	8.79	#VALUE!		673.36	580.02	713.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	406384.25	0.45	442436.88	91.9	60 - 125		404634.53	406237.50	408280.69
45 Sc # 1	430309.28	0.29	456299.72	94.3	60 - 125		430109.56	429179.03	431639.28
45 Sc # 3	723694.06	1.12	765061.25	94.6	60 - 125		716573.75	722040.13	732468.19
74 Ge # 1	151017.70	0.28	153441.28	98.4	60 - 125		150672.09	151492.19	150888.81
74 Ge # 2	44952.65	0.48	47804.94	94.0	60 - 125		44790.32	44869.54	45198.07
74 Ge # 3	220257.00	0.48	224564.78	98.1	60 - 125		219735.17	219551.02	221484.78
89 Y # 3	1282215.80	1.07	1302847.50	98.4	60 - 125		1271264.00	1277865.30	1297517.90
115 In # 3	1346203.30	0.31	1366177.60	98.5	60 - 125		1345996.80	1342132.80	1350480.10
159 Tb # 3	1958121.00	0.65	2052817.90	95.4	60 - 125		1947879.40	1953985.10	1972498.30
209 Bi # 3	1307305.90	0.54	1405468.50	93.0	60 - 125		1302403.90	1315345.90	1304167.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\154SMPL.D\154SMPL.D#
 Date Acquired: Aug 25 2014 04:58 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-5-b
 Misc Info: 3005 1/5
 Vial Number: 3203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.592	1.592	ug/l	4.11	100.00		2896.96	2713.60	2756.94
11 B #3	3.928	3.928	ug/l	2.35	1800.00		7588.35	7531.66	7781.75
23 Na #1	326.4	326.4	ug/l	0.15	81000.00		1430386.40	1432927.00	1431296.30
24 Mg #1	3917	3917	ug/l	0.65	81000.00		11052990.00	11086495.00	11187103.00
27 Al #1	23120	23120	ug/l	0.19	81000.00		77496176.00	77983736.00	77925704.00
39 K #2	2611	2611	ug/l	0.81	81000.00		882897.19	893289.38	892489.38
40 Ca #1	2527	2527	ug/l	0.35	81000.00		19673084.00	19700714.00	19780888.00
47 Ti #3	113.3	113.3	ug/l	0.74	1620.00		147352.61	147020.67	149383.23
51 V #2	39.49	39.49	ug/l	0.18	1800.00		103073.24	103105.52	104101.73
52 Cr #2	38.3	38.3	ug/l	0.32	1800.00		121262.02	121421.92	122041.24
55 Mn #3	543.4	543.4	ug/l	0.33	1800.00		10154345.00	10183111.00	10288876.00
56 Fe #1	24590	24590	ug/l	1.10	81000.00		248199730.00	248789120.00	253079890.00
59 Co #3	22.34	22.34	ug/l	0.87	1800.00		315728.09	319445.06	318511.94
60 Ni #2	45.22	45.22	ug/l	0.67	1800.00		52921.86	53282.82	53207.07
63 Cu #2	36.99	36.99	ug/l	0.96	1800.00		118985.69	120189.20	119310.93
66 Zn #3	211.7	211.7	ug/l	1.24	1800.00		433505.50	442150.63	439065.94
75 As #2	5.346	5.346	ug/l	1.22	100.00		1822.43	1861.10	1862.10
78 Se #1	0.7924	0.7924	ug/l	7.04	100.00		237.67	211.34	237.00
88 Sr #3	17.89	17.89	ug/l	0.76	1800.00		716389.81	719495.38	727534.44
95 Mo #3	1.64	1.64	ug/l	1.37	1800.00		6421.35	6591.41	6491.35
107 Ag #3	0.09588	0.09588	ug/l	2.35	100.00		1166.74	1190.08	1140.07
111 Cd #3	0.2894	0.2894	ug/l	7.75	100.00		701.96	731.92	628.60
118 Sn #3	3.434	3.434	ug/l	0.15	1800.00		26136.96	26046.75	26090.10
121 Sb #3	0.1912	0.1912	ug/l	2.08	100.00		1770.14	1736.81	1696.79
137 Ba #3	344.6	344.6	ug/l	0.41	1800.00		1350005.80	1347115.50	1356265.00
202 Hg #3	0.03584	0.03584	ug/l	15.94	5.00		233.67	259.01	226.00
205 Tl #3	0.535	0.535	ug/l	1.90	20.00		14780.65	14396.91	14653.90
208 Pb #3	25.7	25.7	ug/l	0.58	1800.00		938819.13	945884.75	948485.19
232 Th #3	13.86	13.86	ug/l	1.32	#VALUE!		524699.94	532979.31	532119.56
238 U #3	2.603	2.603	ug/l	1.01	#VALUE!		103682.12	104138.67	103172.20

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	404878.25	0.67	442436.88	91.5	60 - 125		401770.50	406537.50	406326.72
45 Sc #1	525647.88	0.23	456299.72	115.2	60 - 125		524560.00	526945.88	525437.81
45 Sc #3	886444.88	1.44	765061.25	115.9	60 - 125		875711.25	883088.00	900535.38
74 Ge #1	151447.97	0.17	153441.28	98.7	60 - 125		151533.70	151150.72	151659.47
74 Ge #2	45131.54	0.58	47804.94	94.4	60 - 125		45058.73	44912.87	45423.02
74 Ge #3	219201.45	0.61	224564.78	97.6	60 - 125		218844.31	218084.09	220675.94
89 Y #3	2074609.40	1.37	1302847.50	159.2	60 - 125	IS I	2043173.50	2082040.10	2098614.50
115 In #3	1315379.10	0.09	1366177.60	96.3	60 - 125		1316504.80	1315400.90	1314231.80
159 Tb #3	1990321.60	1.05	2052817.90	97.0	60 - 125		1970969.80	1987664.40	2012330.60
209 Bi #3	1278794.30	0.59	1405468.50	91.0	60 - 125		1283813.00	1270090.30	1282479.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\155SMPL.D\155SMPL.D#
 Date Acquired: Aug 25 2014 05:06 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-6-b
 Misc Info: 3005 1/5
 Vial Number: 3204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.914	1.914	ug/l	4.86	100.00		2906.96	2780.27	2716.93
11 B # 3	3.973	3.973	ug/l	6.93	1800.00		6317.84	6721.37	6251.17
23 Na # 1	101.8	101.8	ug/l	1.01	81000.00		438675.47	428391.72	424505.78
24 Mg # 1	5266	5266	ug/l	0.49	81000.00		12474669.00	12275238.00	12084043.00
27 Al # 1	21270	21270	ug/l	0.79	81000.00		59790504.00	59184172.00	57578884.00
39 K # 2	2151	2151	ug/l	0.48	81000.00		597765.88	601971.56	607577.25
40 Ca # 1	3266	3266	ug/l	0.07	81000.00		21175224.00	20978126.00	20672044.00
47 Ti # 3	120.8	120.8	ug/l	4.37	1620.00		125241.09	124593.42	124620.69
51 V # 2	46.62	46.62	ug/l	0.59	1800.00		99878.19	99683.61	100510.26
52 Cr # 2	34.98	34.98	ug/l	0.46	1800.00		90939.06	90457.77	91663.49
55 Mn # 3	1563	1563	ug/l	1.68	1800.00		24213322.00	24319240.00	24230716.00
56 Fe # 1	58590	58590	ug/l	1.00	81000.00		499577150.00	485853700.00	484037220.00
59 Co # 3	25.62	25.62	ug/l	1.62	1800.00		300239.91	302107.13	300907.94
60 Ni # 2	48.66	48.66	ug/l	0.53	1800.00		46871.30	46347.73	47346.86
63 Cu # 2	33.66	33.66	ug/l	1.20	1800.00		89331.90	89149.91	88949.88
66 Zn # 3	128.2	128.2	ug/l	1.69	1800.00		219652.00	219159.08	219789.53
75 As # 2	19.9	19.9	ug/l	1.10	100.00		5610.54	5606.20	5599.53
78 Se # 1	0.5777	0.5777	ug/l	0.89	100.00		145.67	147.67	143.33
88 Sr # 3	18.99	18.99	ug/l	3.41	1800.00		604929.06	615544.38	604670.56
95 Mo # 3	2.494	2.494	ug/l	4.41	1800.00		8725.71	8588.97	8675.72
107 Ag # 3	0.04997	0.04997	ug/l	5.12	100.00		543.36	586.70	633.36
111 Cd # 3	0.09072	0.09072	ug/l	7.40	100.00		191.42	201.45	188.10
118 Sn # 3	2.995	2.995	ug/l	4.11	1800.00		20042.17	20145.54	20225.63
121 Sb # 3	0.2856	0.2856	ug/l	2.81	100.00		2256.88	2233.54	2313.56
137 Ba # 3	243.6	243.6	ug/l	4.53	1800.00		842490.06	842762.50	840018.81
202 Hg # 3	0.02812	0.02812	ug/l	23.27	5.00		207.01	202.01	183.34
205 Tl # 3	0.3365	0.3365	ug/l	4.63	20.00		8502.52	8622.58	8425.80
208 Pb # 3	25.94	25.94	ug/l	3.95	1800.00		876553.75	880725.50	872896.88
232 Th # 3	12.26	12.26	ug/l	3.10	#VALUE!		435773.25	435183.59	433367.66
238 U # 3	2.057	2.057	ug/l	3.13	#VALUE!		75251.29	76912.75	75730.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	338411.84	1.60	442436.88	76.5	60 - 125		334545.69	336077.41	344612.50
45 Sc # 1	432121.41	1.16	456299.72	94.7	60 - 125		436574.84	433115.03	426674.34
45 Sc # 3	702399.44	4.28	765061.25	91.8	60 - 125		681169.75	689246.25	736782.38
74 Ge # 1	127973.97	0.86	153441.28	83.4	60 - 125		128546.38	128669.51	126706.01
74 Ge # 2	36984.08	1.01	47804.94	77.4	60 - 125		36781.45	36753.64	37417.15
74 Ge # 3	181120.92	1.71	224564.78	80.7	60 - 125		178030.28	181123.33	184209.14
89 Y # 3	1649173.30	3.13	1302847.50	126.6	60 - 125	IS 1	1603081.30	1639562.60	1704876.10
115 In # 3	1160751.10	4.47	1366177.60	85.0	60 - 125		1128188.00	1133464.60	1220600.60
159 Tb # 3	1831860.60	3.63	2052817.90	89.2	60 - 125		1794592.00	1792283.30	1908706.40
209 Bi # 3	1186516.30	2.86	1405468.50	84.4	60 - 125		1162306.80	1171931.50	1225310.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\156SMPL.D\156SMPL.D#
 Date Acquired: Aug 25 2014 05:13 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-8-c
 Misc Info: 3005 1/5
 Vial Number: 3205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	1.745	1.745	ug/l	2.88	100.00		2413.55	2426.88	2593.57
11 B #3	4.746	4.746	ug/l	3.84	1800.00		7131.47	6834.67	7328.21
23 Na #1	106.4	106.4	ug/l	0.35	81000.00		408750.47	406176.88	411591.91
24 Mg #1	5199	5199	ug/l	0.30	81000.00		11136578.00	11072035.00	11150726.00
27 Al #1	17830	17830	ug/l	0.82	81000.00		45423128.00	45261332.00	45052280.00
39 K #2	2020	2020	ug/l	0.17	81000.00		539337.06	545266.13	558358.94
40 Ca #1	3833	3833	ug/l	0.88	81000.00		22674958.00	22515442.00	22442990.00
47 Ti #3	145.4	145.4	ug/l	0.41	1620.00		138264.56	140578.58	141068.55
51 V #2	39.42	39.42	ug/l	0.47	1800.00		80825.18	81809.36	82808.27
52 Cr #2	32.15	32.15	ug/l	1.10	1800.00		80504.00	80888.93	81369.01
55 Mn #3	2014	2014	ug/l	0.65	1800.00	Fail	29900626.00	29932322.00	30393322.00
56 Fe #1	41100	41100	ug/l	0.20	81000.00		313932930.00	314652420.00	317040380.00
59 Co #3	24.3	24.3	ug/l	0.73	1800.00		272744.25	273920.09	278105.66
60 Ni #2	43.67	43.67	ug/l	0.52	1800.00		40165.59	40700.04	41145.57
63 Cu #2	32.4	32.4	ug/l	1.97	1800.00		83131.02	83235.78	82636.78
66 Zn #3	129	129	ug/l	0.72	1800.00		211375.91	211278.14	214910.95
75 As #2	8.144	8.144	ug/l	0.47	100.00		2205.47	2211.81	2260.81
78 Se #1	0.6594	0.6594	ug/l	8.02	100.00		143.00	158.00	166.67
88 Sr #3	16.03	16.03	ug/l	0.06	1800.00		495164.38	495656.56	500221.81
95 Mo #3	1.245	1.245	ug/l	1.77	1800.00		4140.59	4147.25	4327.32
107 Ag #3	0.07439	0.07439	ug/l	10.61	100.00		830.05	706.70	830.05
111 Cd #3	0.3398	0.3398	ug/l	8.52	100.00		705.79	719.13	622.41
118 Sn #3	3.049	3.049	ug/l	1.18	1800.00		19254.52	19958.55	19861.84
121 Sb #3	0.2387	0.2387	ug/l	3.70	100.00		1876.84	1813.48	1786.81
137 Ba #3	212	212	ug/l	0.43	1800.00		699154.56	704153.06	708601.94
202 Hg #3	0.01407	0.01407	ug/l	30.75	5.00		136.33	158.34	157.00
205 Tl #3	0.2876	0.2876	ug/l	4.46	20.00		6798.36	7334.14	6945.07
208 Pb #3	24.42	24.42	ug/l	0.09	1800.00		792545.50	788898.13	799150.00
232 Th #3	12.24	12.24	ug/l	2.31	#VALUE!		417798.44	420760.31	424334.38
238 U #3	1.927	1.927	ug/l	3.20	#VALUE!		68818.06	67951.29	70193.49

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	328062.09	1.17	442436.88	74.1	60 - 125		325097.75	326680.41	332408.13
45 Sc #1	396410.91	0.45	456299.72	86.9	60 - 125		395688.97	395106.59	398437.28
45 Sc #3	653797.56	0.95	765061.25	85.5	60 - 125		647737.38	653555.56	660099.69
74 Ge #1	121843.02	0.56	153441.28	79.4	60 - 125		121273.02	121649.88	122606.19
74 Ge #2	35771.34	1.63	47804.94	74.8	60 - 125		35249.57	35662.61	36401.84
74 Ge #3	174271.36	0.31	224564.78	77.6	60 - 125		173756.30	174238.19	174819.63
89 Y #3	1595052.60	0.59	1302847.50	122.4	60 - 125		1589559.80	1589598.10	1605999.80
115 In #3	1114180.90	1.09	1366177.60	81.6	60 - 125		1101297.50	1115830.30	1125414.90
159 Tb #3	1759581.60	0.72	2052817.90	85.7	60 - 125		1755708.80	1749383.10	1773653.30
209 Bi #3	1150035.90	2.86	1405468.50	81.8	60 - 125		1112126.80	1170722.30	1167258.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\157SMPL.D\157SMPL.D#
 Date Acquired: Aug 25 2014 05:20 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-10-c
 Misc Info: 3005 1/5
 Vial Number: 3206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.481	1.481	ug/l	5.05	100.00		2203.52	2373.54	2483.57
11 B # 3	6.782	6.782	ug/l	0.42	1800.00		10366.33	10569.82	10503.08
23 Na # 1	143.6	143.6	ug/l	1.12	81000.00		565133.13	573231.38	567413.88
24 Mg # 1	8512	8512	ug/l	0.47	81000.00		19580844.00	19971106.00	19887168.00
27 Al # 1	21030	21030	ug/l	1.10	81000.00		56986492.00	59031320.00	58243872.00
39 K # 2	2418	2418	ug/l	1.19	81000.00		702934.56	720488.50	732980.94
40 Ca # 1	16720	16720	ug/l	0.67	81000.00		105563100.00	108111050.00	107230790.00
47 Ti # 3	133.8	133.8	ug/l	1.28	1620.00		150161.58	152086.72	153880.47
51 V # 2	44.34	44.34	ug/l	0.49	1800.00		99760.83	101345.88	102446.26
52 Cr # 2	31.56	31.56	ug/l	0.26	1800.00		86091.69	87792.99	88198.30
55 Mn # 3	1279	1279	ug/l	1.04	1800.00		21455596.00	21536310.00	21641986.00
56 Fe # 1	46570	46570	ug/l	0.55	81000.00		385880900.00	390282020.00	389828510.00
59 Co # 3	20.9	20.9	ug/l	0.90	1800.00		265334.66	266627.09	268400.06
60 Ni # 2	38.62	38.62	ug/l	0.32	1800.00		39224.69	39661.20	39787.01
63 Cu # 2	30.99	30.99	ug/l	0.08	1800.00		86315.41	87823.59	87841.27
66 Zn # 3	114.2	114.2	ug/l	0.94	1800.00		211373.83	212004.00	213621.14
75 As # 2	15.89	15.89	ug/l	1.74	100.00		4645.60	4755.96	4891.33
78 Se # 1	0.506	0.506	ug/l	5.09	100.00		124.00	134.33	137.67
88 Sr # 3	33.95	33.95	ug/l	0.63	1800.00		1134096.00	1133480.00	1156579.50
95 Mo # 3	1.666	1.666	ug/l	1.54	1800.00		6157.92	6014.53	6251.30
107 Ag # 3	0.0505	0.0505	ug/l	8.84	100.00		570.03	646.70	656.70
111 Cd # 3	0.2744	0.2744	ug/l	5.31	100.00		635.34	572.04	611.99
118 Sn # 3	3.097	3.097	ug/l	1.06	1800.00		22027.78	21967.71	21844.34
121 Sb # 3	0.2824	0.2824	ug/l	3.24	100.00		2380.24	2273.56	2443.59
137 Ba # 3	171.4	171.4	ug/l	0.32	1800.00		620908.25	622680.13	631717.44
202 Hg # 3	0.02942	0.02942	ug/l	22.04	5.00		213.01	221.34	185.67
205 Tl # 3	0.3022	0.3022	ug/l	4.11	20.00		7825.50	7548.73	8229.06
208 Pb # 3	31.51	31.51	ug/l	0.45	1800.00		1092187.80	1089538.40	1094000.50
232 Th # 3	10.34	10.34	ug/l	0.43	#VALUE!		374215.63	380336.06	380084.31
238 U # 3	1.189	1.189	ug/l	0.49	#VALUE!		44882.94	45541.86	45484.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	366995.69	1.08	442436.88	82.9	60 - 125		362427.03	369295.81	369264.22
45 Sc # 1	431448.50	1.10	456299.72	94.6	60 - 125		426120.44	432993.59	435231.50
45 Sc # 3	771576.00	2.13	765061.25	100.9	60 - 125		762416.63	761734.88	790576.56
74 Ge # 1	130260.61	1.16	153441.28	84.9	60 - 125		128548.59	131438.94	130794.30
74 Ge # 2	39334.48	1.05	47804.94	82.3	60 - 125		38861.25	39538.25	39603.95
74 Ge # 3	196638.70	1.48	224564.78	87.6	60 - 125		193925.98	196288.45	199701.72
89 Y # 3	1730120.10	0.87	1302847.50	132.8	60 - 125	IS I	1714975.10	1730483.60	1744901.60
115 In # 3	1223191.50	0.62	1366177.60	89.5	60 - 125		1218560.10	1219075.50	1231939.00
159 Tb # 3	1877403.30	0.51	2052817.90	91.5	60 - 125		1868448.30	1876137.60	1887624.40
209 Bi # 3	1223291.00	1.05	1405468.50	87.0	60 - 125		1209631.90	1225249.50	1234991.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\158SMPL.D\158SMPL.D#
 Date Acquired: Aug 25 2014 05:28 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-11-c
 Misc Info: 3005 1/5
 Vial Number: 3207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	1.309	1.309	ug/l	3.16	100.00		2056.83	2103.50	2230.19
11 B # 3	5.783	5.783	ug/l	1.55	1800.00		9285.73	9402.48	9699.34
23 Na # 1	545.7	545.7	ug/l	0.26	81000.00		2017887.30	2020789.10	2020744.80
24 Mg # 1	4679	4679	ug/l	0.32	81000.00		11583933.00	11597343.00	11499268.00
27 Al # 1	17970	17970	ug/l	0.19	81000.00		52729604.00	52757016.00	52635876.00
39 K # 2	1665	1665	ug/l	0.86	81000.00		512165.25	518109.94	528467.63
40 Ca # 1	7973	7973	ug/l	0.45	81000.00		54230824.00	54025460.00	54178348.00
47 Ti # 3	150.9	150.9	ug/l	1.50	1620.00		172175.20	171733.30	175306.58
51 V # 2	44.85	44.85	ug/l	0.15	1800.00		106194.46	106073.56	107756.87
52 Cr # 2	26.41	26.41	ug/l	0.34	1800.00		75576.98	76004.16	77212.44
55 Mn # 3	1938	1938	ug/l	0.18	1800.00	Fail	33265686.00	33451632.00	33498912.00
56 Fe # 1	41120	41120	ug/l	0.46	81000.00		362424510.00	365142910.00	365400220.00
59 Co # 3	20.47	20.47	ug/l	1.00	1800.00		265320.41	265714.81	270503.66
60 Ni # 2	50.52	50.52	ug/l	0.19	1800.00		53577.06	53829.82	54371.50
63 Cu # 2	29.28	29.28	ug/l	0.49	1800.00		85945.96	85737.06	86375.73
66 Zn # 3	100.7	100.7	ug/l	0.76	1800.00		190013.13	191451.88	193449.14
75 As # 2	16.9	16.9	ug/l	0.92	100.00		5260.10	5304.45	5278.44
78 Se # 1	0.3453	0.3453	ug/l	3.96	100.00		104.33	98.67	102.67
88 Sr # 3	26.92	26.92	ug/l	0.89	1800.00		1014567.90	1006905.50	1030501.10
95 Mo # 3	1.056	1.056	ug/l	3.71	1800.00		4127.28	3960.57	3903.87
107 Ag # 3	0.0751	0.0751	ug/l	4.66	100.00		923.39	873.38	866.71
111 Cd # 3	0.6714	0.6714	ug/l	3.62	100.00		1505.87	1532.67	1459.24
118 Sn # 3	2.765	2.765	ug/l	0.58	1800.00		19875.14	19931.96	20162.14
121 Sb # 3	0.1746	0.1746	ug/l	6.27	100.00		1396.76	1503.44	1603.45
137 Ba # 3	142.4	142.4	ug/l	0.81	1800.00		524375.31	527919.50	531521.75
202 Hg # 3	0.01447	0.01447	ug/l	52.08	5.00		152.67	151.33	194.68
205 Tl # 3	0.273	0.273	ug/l	3.06	20.00		7208.54	7562.08	7165.16
208 Pb # 3	23.62	23.62	ug/l	0.48	1800.00		833575.38	843288.81	844956.63
232 Th # 3	10.71	10.71	ug/l	0.36	#VALUE!		395669.38	399156.34	399769.94
238 U # 3	0.8972	0.8972	ug/l	1.80	#VALUE!		34168.71	34546.41	35535.11

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	376065.81	1.08	442436.88	85.0	60 - 125		372108.97	375885.63	380202.94
45 Sc # 1	457964.34	0.27	456299.72	100.4	60 - 125		457476.91	459358.16	457058.03
45 Sc # 3	779145.25	1.77	765061.25	101.8	60 - 125		763462.94	784735.38	789237.50
74 Ge # 1	138774.94	0.66	153441.28	90.4	60 - 125		139021.67	139539.45	137763.69
74 Ge # 2	41000.77	0.81	47804.94	85.8	60 - 125		40779.90	40840.06	41382.37
74 Ge # 3	201092.13	0.21	224564.78	89.5	60 - 125		200604.81	201385.92	201285.67
89 Y # 3	1944590.40	0.33	1302847.50	149.3	60 - 125	IS I	1940226.90	1941601.30	1951942.60
115 In # 3	1243455.90	1.15	1366177.60	91.0	60 - 125		1238905.00	1231956.30	1259506.60
159 Tb # 3	1926746.00	1.20	2052817.90	93.9	60 - 125		1900841.00	1934171.60	1945225.80
209 Bi # 3	1243058.80	0.77	1405468.50	88.4	60 - 125		1232543.90	1251160.90	1245471.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\159SMPL.D\159SMPL.D#
 Date Acquired: Aug 25 2014 05:35 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-13-c
 Misc Info: 3005 1/5
 Vial Number: 3208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.807	1.807	ug/l	5.95	100.00		3213.68	3163.67	2903.62
11 B #3	16.73	16.73	ug/l	0.84	1800.00		24692.70	24659.48	24699.35
23 Na #1	205.3	205.3	ug/l	0.68	81000.00		951310.94	946829.88	960737.19
24 Mg #1	12540	12540	ug/l	0.61	81000.00		35824452.00	36083760.00	35985640.00
27 Al #1	25630	25630	ug/l	0.84	81000.00		86782168.00	87787872.00	87156344.00
39 K #2	4343	4343	ug/l	1.23	81000.00		1407233.10	1437348.90	1460602.30
40 Ca #1	47940	47940	ug/l	1.17	81000.00		374507550.00	381379580.00	377429950.00
47 Ti #3	108.5	108.5	ug/l	1.25	1620.00		146482.39	144894.53	147437.53
51 V #2	46.46	46.46	ug/l	0.54	1800.00		118015.67	118628.20	119272.37
52 Cr #2	48.85	48.85	ug/l	0.79	1800.00		149871.00	150754.42	152840.53
55 Mn #3	1319	1319	ug/l	0.50	1800.00		24392382.00	24466556.00	24667400.00
56 Fe #1	58380	58380	ug/l	0.56	81000.00		597662270.00	600977410.00	602673090.00
59 Co #3	28.05	28.05	ug/l	0.31	1800.00		391062.09	395171.56	398133.84
60 Ni #2	61.97	61.97	ug/l	0.54	1800.00		70686.01	71035.06	71294.93
63 Cu #2	44.6	44.6	ug/l	0.35	1800.00		139261.97	141646.78	140459.69
66 Zn #3	146.8	146.8	ug/l	0.64	1800.00		300053.28	300233.91	302595.53
75 As #2	11.61	11.61	ug/l	0.60	100.00		3846.08	3908.43	3941.44
78 Se #1	0.5196	0.5196	ug/l	6.72	100.00		144.33	152.33	161.33
88 Sr #3	86.17	86.17	ug/l	0.81	1800.00		3677507.50	3658102.50	3683508.80
95 Mo #3	1.52	1.52	ug/l	2.31	1800.00		5897.80	6134.54	6014.51
107 Ag #3	0.04117	0.04117	ug/l	6.58	100.00		593.36	553.36	556.69
111 Cd #3	0.1024	0.1024	ug/l	5.13	100.00		255.38	245.33	238.69
118 Sn #3	3.157	3.157	ug/l	0.58	1800.00		23609.82	23730.20	24574.68
121 Sb #3	0.1079	0.1079	ug/l	1.87	100.00		963.39	1006.73	1010.06
137 Ba #3	91.21	91.21	ug/l	0.78	1800.00		352292.28	356973.91	360099.09
202 Hg #3	0.01358	0.01358	ug/l	35.32	5.00		152.67	186.34	168.34
205 Tl #3	0.2413	0.2413	ug/l	1.16	20.00		6624.93	6838.35	6664.93
208 Pb #3	20.91	20.91	ug/l	1.05	1800.00		767722.06	766871.44	775853.44
232 Th #3	12.89	12.89	ug/l	0.46	#VALUE!		475650.47	479569.00	474054.25
238 U #3	1.282	1.282	ug/l	1.38	#VALUE!		49430.72	49122.41	49443.61

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	395801.63	0.74	442436.88	89.5	60 - 125		392476.53	396932.66	397995.72
45 Sc #1	531633.06	0.27	456299.72	116.5	60 - 125		532578.25	530008.00	532313.06
45 Sc #3	915345.00	1.62	765061.25	119.6	60 - 125		903966.63	909974.38	932094.06
74 Ge #1	147299.23	0.48	153441.28	96.0	60 - 125		148045.55	146653.58	147198.58
74 Ge #2	44019.26	0.86	47804.94	92.1	60 - 125		43584.23	44277.97	44195.59
74 Ge #3	216863.94	1.07	224564.78	96.6	60 - 125		214803.14	216397.86	219390.83
89 Y #3	2194005.50	0.63	1302847.50	168.4	60 - 125	IS I	2178160.80	2202017.50	2201838.50
115 In #3	1311196.60	1.69	1366177.60	96.0	60 - 125		1293391.50	1304230.50	1335968.00
159 Tb #3	1993618.80	1.02	2052817.90	97.1	60 - 125		1970438.10	2008445.60	2001972.60
209 Bi #3	1235513.60	1.02	1405468.50	87.9	60 - 125		1229104.40	1250061.30	1227375.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\160SMPL.D\160SMPL.D#
 Date Acquired: Aug 25 2014 05:42 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-1-b
 Misc Info: 3005 1/5
 Vial Number: 3209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	1.984	1.984	ug/l	2.41	100.00		3267.01	3220.34	3197.01
11 B #3	0.9113	0.9113	ug/l	13.70	1800.00		3263.68	3357.04	3080.32
23 Na #1	168.2	168.2	ug/l	1.53	81000.00		909060.38	882626.31	885979.25
24 Mg #1	15050	15050	ug/l	0.89	81000.00		48803944.00	47807424.00	47726228.00
27 Al #1	25390	25390	ug/l	0.32	81000.00		97084808.00	96177680.00	95688568.00
39 K #2	12560	12560	ug/l	0.38	81000.00		3926672.50	3972417.00	4002354.00
40 Ca #1	964.5	964.5	ug/l	0.78	81000.00		8612064.00	8451146.00	8447390.00
47 Ti #3	2631	2631	ug/l	0.62	1620.00	Fail	3820795.80	3853945.80	3852308.30
51 V #2	110.4	110.4	ug/l	1.05	1800.00		269562.81	272086.34	270546.09
52 Cr #2	116.7	116.7	ug/l	0.98	1800.00		347298.22	345984.59	347258.13
55 Mn #3	399.6	399.6	ug/l	0.61	1800.00		7187066.50	7247203.00	7213022.50
56 Fe #1	31970	31970	ug/l	0.92	81000.00		371671940.00	366282780.00	361531460.00
59 Co #3	16.48	16.48	ug/l	0.82	1800.00		225029.06	223111.95	227724.47
60 Ni #2	55.61	55.61	ug/l	1.74	1800.00		60881.51	62066.64	60815.79
63 Cu #2	9.212	9.212	ug/l	1.33	1800.00		28312.86	28180.43	28130.35
66 Zn #3	37.46	37.46	ug/l	0.36	1800.00		74812.21	75016.69	75233.84
75 As #2	1.069	1.069	ug/l	1.68	100.00		357.67	360.34	355.00
78 Se #1	0.2068	0.2068	ug/l	9.73	100.00		70.00	76.00	66.00
88 Sr #3	5.712	5.712	ug/l	0.66	1800.00		183508.64	185361.55	184321.53
95 Mo #3	0.1574	0.1574	ug/l	9.06	1800.00		646.70	756.70	676.70
107 Ag #3	0.000938	0.000938	ug/l	148.93	100.00		116.67	143.34	116.67
111 Cd #3	0.016	0.016	ug/l	55.95	100.00		46.53	59.84	19.85
118 Sn #3	3.906	3.906	ug/l	1.99	1800.00		27632.63	28440.49	28507.33
121 Sb #3	0.003562	0.003562	ug/l	33.38	100.00		73.34	56.67	73.34
137 Ba #3	247.1	247.1	ug/l	0.81	1800.00		921370.00	923842.56	924068.19
202 Hg #3	-0.01343	-0.01343	ug/l	58.55	5.00		72.67	105.68	59.00
205 Tl #3	0.3056	0.3056	ug/l	1.52	20.00		8119.01	7992.25	8068.97
208 Pb #3	2.353	2.353	ug/l	0.55	1800.00		83444.40	84329.96	83989.20
232 Th #3	11.64	11.64	ug/l	1.04	#VALUE!		411775.84	411082.50	408537.66
238 U #3	1.325	1.325	ug/l	0.77	#VALUE!		48985.54	48059.16	48888.65

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	376127.94	1.30	442436.88	85.0	60 - 125		370577.84	378055.66	379750.25
45 Sc #1	592477.56	0.48	456299.72	129.8	60 - 125	IS I	595030.81	592948.44	589453.44
45 Sc #3	992664.38	0.65	765061.25	129.7	60 - 125	IS I	989146.31	988779.38	1000067.30
74 Ge #1	143003.20	0.11	153441.28	93.2	60 - 125		142845.72	143145.66	143018.20
74 Ge #2	42318.19	1.01	47804.94	88.5	60 - 125		41968.13	42191.95	42794.50
74 Ge #3	210654.81	0.64	224564.78	93.8	60 - 125		209325.95	210605.41	212033.09
89 Y #3	1659757.80	0.95	1302847.50	127.4	60 - 125	IS I	1641737.60	1666937.00	1670598.80
115 In #3	1253474.80	0.78	1366177.60	91.8	60 - 125		1253369.40	1263280.10	1243774.80
159 Tb #3	1902913.10	0.85	2052817.90	92.7	60 - 125		1884795.00	1907716.40	1916227.50
209 Bi #3	1178789.80	0.66	1405468.50	83.9	60 - 125		1176965.90	1172118.90	1187284.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\161SMPL.D\161SMPL.D#
 Date Acquired: Aug 25 2014 05:50 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-2-b
 Misc Info: 3005 1/5
 Vial Number: 3210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	2.127	2.127	ug/l	4.10	100.00		3383.72	3620.43	3357.05
11 B #3	0.9577	0.9577	ug/l	2.02	1800.00		3263.70	3317.04	3277.03
23 Na #1	189	189	ug/l	0.61	81000.00		982105.00	967740.81	967344.38
24 Mg #1	12100	12100	ug/l	0.92	81000.00		37999048.00	37871948.00	38428296.00
27 Al #1	29710	29710	ug/l	0.81	81000.00		110485460.00	110794700.00	111631770.00
39 K #2	11080	11080	ug/l	0.36	81000.00		3444383.80	3482746.50	3548946.30
40 Ca #1	1285	1285	ug/l	0.44	81000.00		11221690.00	11067437.00	11146937.00
47 Ti #3	2248	2248	ug/l	0.37	1620.00	Fail	3369120.30	3444578.80	3436884.50
51 V #2	137.1	137.1	ug/l	0.40	1800.00		330367.25	334337.88	341223.81
52 Cr #2	99.88	99.88	ug/l	0.07	1800.00		291568.81	296461.31	300086.47
55 Mn #3	694.4	694.4	ug/l	1.10	1800.00		12390147.00	12681129.00	12667766.00
56 Fe #1	37540	37540	ug/l	0.38	81000.00		423762530.00	422546400.00	424521700.00
59 Co #3	23.96	23.96	ug/l	0.97	1800.00		325040.84	328529.38	332521.50
60 Ni #2	38.92	38.92	ug/l	0.56	1800.00		42323.78	42868.28	43134.44
63 Cu #2	45.91	45.91	ug/l	0.68	1800.00		137520.05	138291.09	140099.38
66 Zn #3	71.64	71.64	ug/l	0.94	1800.00		141848.94	143356.84	145016.83
75 As #2	1.487	1.487	ug/l	2.47	100.00		489.01	499.01	484.01
78 Se #1	0.401	0.401	ug/l	4.55	100.00		115.67	114.33	122.00
88 Sr #3	6.257	6.257	ug/l	0.40	1800.00		216582.56	219631.77	220020.36
95 Mo #3	0.5675	0.5675	ug/l	5.08	1800.00		2346.89	2163.54	2216.87
107 Ag #3	0.01232	0.01232	ug/l	15.58	100.00		240.01	230.01	270.01
111 Cd #3	0.03571	0.03571	ug/l	39.57	100.00		79.49	59.53	122.85
118 Sn #3	3.525	3.525	ug/l	1.68	1800.00		25545.99	26357.18	25562.81
121 Sb #3	0.02436	0.02436	ug/l	11.54	100.00		223.34	273.34	243.34
137 Ba #3	361.2	361.2	ug/l	0.37	1800.00		1359622.90	1364436.60	1374361.30
202 Hg #3	-0.004029	-0.004029	ug/l	133.63	5.00		92.33	105.00	126.34
205 Tl #3	0.5987	0.5987	ug/l	1.57	20.00		15251.09	15641.51	15978.43
208 Pb #3	9.084	9.084	ug/l	0.58	1800.00		316360.31	320223.50	324257.50
232 Th #3	9.342	9.342	ug/l	0.59	#VALUE!		327155.09	331508.59	333014.69
238 U #3	2.083	2.083	ug/l	1.73	#VALUE!		75372.09	77994.74	76808.98

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	375232.53	0.65	442436.88	84.8	60 - 125		372476.50	376070.31	377150.81
45 Sc #1	583388.56	0.33	456299.72	127.9	60 - 125	IS I	585641.06	582254.44	582270.31
45 Sc #3	1033193.10	1.55	765061.25	135.0	60 - 125	IS I	1015144.40	1045556.40	1038878.40
74 Ge #1	141206.42	0.39	153441.28	92.0	60 - 125		141766.47	141193.03	140659.78
74 Ge #2	42208.30	1.51	47804.94	88.3	60 - 125		41539.42	42272.11	42813.38
74 Ge #3	211357.61	0.20	224564.78	94.1	60 - 125		210858.61	211607.19	211607.03
89 Y #3	1797745.10	0.75	1302847.50	138.0	60 - 125	IS I	1783168.80	1810014.10	1800052.50
115 In #3	1269032.10	0.65	1366177.60	92.9	60 - 125		1259525.50	1272776.40	1274794.60
159 Tb #3	1904231.30	0.89	2052817.90	92.8	60 - 125		1884699.80	1912540.00	1915453.80
209 Bi #3	1182959.40	1.18	1405468.50	84.2	60 - 125		1171298.00	1179145.40	1198434.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\162SMPL.D\162SMPL.D#
 Date Acquired: Aug 25 2014 05:57 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-3-b
 Misc Info: 3005 1/5
 Vial Number: 3211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.298	1.298	ug/l	3.37	100.00		1963.48	2120.17	2070.17
11 B # 3	0.5019	0.5019	ug/l	7.69	1800.00		2633.59	2633.58	2626.90
23 Na # 1	219.2	219.2	ug/l	0.25	81000.00		837513.00	839354.00	844940.69
24 Mg # 1	11000	11000	ug/l	0.25	81000.00		26057044.00	26248922.00	26510372.00
27 Al # 1	21190	21190	ug/l	0.30	81000.00		59630352.00	59940920.00	60647352.00
39 K # 2	9284	9284	ug/l	1.17	81000.00		2707342.50	2758474.50	2848571.30
40 Ca # 1	1720	1720	ug/l	0.58	81000.00		11181730.00	11379096.00	11357721.00
47 Ti # 3	2176	2176	ug/l	0.46	1620.00	Fail	2701697.30	2720468.80	2766200.50
51 V # 2	65.31	65.31	ug/l	0.75	1800.00		147213.58	151439.92	155327.06
52 Cr # 2	58.62	58.62	ug/l	0.76	1800.00		160563.67	164585.55	168660.23
55 Mn # 3	447.9	447.9	ug/l	0.79	1800.00		7816851.50	7974353.00	8012649.00
56 Fe # 1	29720	29720	ug/l	0.44	81000.00		251625060.00	254737120.00	256994770.00
59 Co # 3	14.03	14.03	ug/l	1.21	1800.00		186231.52	189582.00	189026.11
60 Ni # 2	38.55	38.55	ug/l	0.65	1800.00		39211.36	40178.92	40969.56
63 Cu # 2	22.72	22.72	ug/l	0.74	1800.00		63826.13	65280.00	66309.25
66 Zn # 3	26.89	26.89	ug/l	1.45	1800.00		52435.38	53478.40	53080.72
75 As # 2	0.9681	0.9681	ug/l	5.05	100.00		299.34	294.34	327.67
78 Se # 1	0.1294	0.1294	ug/l	7.70	100.00		44.00	48.67	45.67
88 Sr # 3	6.022	6.022	ug/l	0.72	1800.00		187009.84	188135.09	190578.53
95 Mo # 3	0.1468	0.1468	ug/l	15.72	1800.00		743.37	620.03	593.36
107 Ag # 3	0.005156	0.005156	ug/l	46.51	100.00		150.00	196.67	160.01
111 Cd # 3	0.02504	0.02504	ug/l	27.85	100.00		53.17	79.87	53.20
118 Sn # 3	2.925	2.925	ug/l	0.73	1800.00		21230.15	21039.98	21430.50
121 Sb # 3	0.004245	0.004245	ug/l	50.08	100.00		83.34	83.34	53.34
137 Ba # 3	139.9	139.9	ug/l	0.36	1800.00		516017.03	522101.34	527036.75
202 Hg # 3	-0.02527	-0.02527	ug/l	2.96	5.00		42.67	39.67	44.33
205 Tl # 3	0.5222	0.5222	ug/l	2.32	20.00		13626.21	13099.01	13396.02
208 Pb # 3	3.076	3.076	ug/l	0.70	1800.00		106132.94	106488.17	108796.71
232 Th # 3	5.443	5.443	ug/l	1.60	#VALUE!		192858.45	191025.56	192753.95
238 U # 3	2.467	2.467	ug/l	2.04	#VALUE!		90791.00	90582.86	90543.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	365140.66	1.69	442436.88	82.5	60 - 125		359714.00	363844.56	371863.38
45 Sc # 1	442624.88	0.62	456299.72	97.0	60 - 125		439867.00	442641.22	445366.44
45 Sc # 3	852528.06	0.85	765061.25	111.4	60 - 125		845032.56	852969.44	859582.06
74 Ge # 1	128092.10	1.23	153441.28	83.5	60 - 125		126490.90	128154.98	129630.43
74 Ge # 2	39962.56	2.48	47804.94	83.6	60 - 125		38843.52	40309.90	40734.27
74 Ge # 3	206703.84	1.61	224564.78	92.0	60 - 125		203752.28	206041.00	210318.22
89 Y # 3	1610130.50	1.45	1302847.50	123.6	60 - 125		1599929.50	1593620.40	1636841.40
115 In # 3	1250903.30	0.99	1366177.60	91.6	60 - 125		1240981.80	1246911.60	1264816.50
159 Tb # 3	1865545.80	0.70	2052817.90	90.9	60 - 125		1853931.00	1863156.30	1879550.00
209 Bi # 3	1180142.10	2.01	1405468.50	84.0	60 - 125		1178939.40	1157008.80	1204478.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\163SMPL.D\163SMPL.D#
 Date Acquired: Aug 25 2014 06:04 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-4-b
 Misc Info: 3005 1/5
 Vial Number: 3212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	2.146	2.146	ug/l	4.67	100.00		3353.72	3283.70	3127.00
11 B #3	0.8095	0.8095	ug/l	9.60	1800.00		2930.31	2770.27	2983.65
23 Na #1	334.4	334.4	ug/l	0.60	81000.00		1557484.80	1546509.90	1540895.90
24 Mg #1	37060	37060	ug/l	0.40	81000.00		111494370.00	111357300.00	110618520.00
27 Al #1	48240	48240	ug/l	1.00	81000.00		173593220.00	171359390.00	170240910.00
39 K #2	27560	27560	ug/l	0.94	81000.00		8144222.50	8211051.50	8354355.50
40 Ca #1	4125	4125	ug/l	0.20	81000.00		34086068.00	34034132.00	33949212.00
47 Ti #3	4211	4211	ug/l	0.05	1620.00	Fail	5950049.00	5963300.50	6007747.50
51 V #2	223.2	223.2	ug/l	0.66	1800.00		517585.41	517237.56	521167.47
52 Cr #2	397.5	397.5	ug/l	0.84	1800.00		1118636.30	1113808.30	1123747.10
55 Mn #3	1361	1361	ug/l	1.06	1800.00		22934360.00	23159644.00	22935532.00
56 Fe #1	66510	66510	ug/l	0.26	81000.00		717216000.00	714952640.00	713698050.00
59 Co #3	53.04	53.04	ug/l	0.55	1800.00		673728.00	682026.06	681567.81
60 Ni #2	178.1	178.1	ug/l	0.66	1800.00		185302.25	185270.63	186969.77
63 Cu #2	25.3	25.3	ug/l	0.68	1800.00		72741.98	72834.63	72705.45
66 Zn #3	126.2	126.2	ug/l	0.61	1800.00		235278.33	234228.33	236681.30
75 As #2	1.426	1.426	ug/l	1.56	100.00		438.01	448.67	456.67
78 Se #1	0.2757	0.2757	ug/l	5.20	100.00		84.33	81.00	78.00
88 Sr #3	17.74	17.74	ug/l	0.73	1800.00		624970.13	624989.44	626138.88
95 Mo #3	0.2243	0.2243	ug/l	13.53	1800.00		853.38	803.38	1016.72
107 Ag #3	0.008647	0.008647	ug/l	24.86	100.00		180.01	183.34	220.01
111 Cd #3	0.07579	0.07579	ug/l	9.89	100.00		183.15	163.16	153.12
118 Sn #3	4.091	4.091	ug/l	1.44	1800.00		27873.11	28160.20	27652.44
121 Sb #3	0.01417	0.01417	ug/l	24.26	100.00		133.34	180.01	133.34
137 Ba #3	569.4	569.4	ug/l	0.30	1800.00		2012599.10	1998462.60	2026125.40
202 Hg #3	-0.01363	-0.01363	ug/l	13.28	5.00		75.33	71.00	81.67
205 Tl #3	1.423	1.423	ug/l	0.48	20.00		35637.32	35851.21	35527.20
208 Pb #3	5.524	5.524	ug/l	0.16	1800.00		188403.64	189115.11	189406.23
232 Th #3	8.487	8.487	ug/l	1.02	#VALUE!		273339.69	275345.06	272487.66
238 U #3	1.997	1.997	ug/l	0.80	#VALUE!		67204.84	66280.74	67662.89

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	350693.63	1.16	442436.88	79.3	60 - 125		348167.09	348517.56	355396.19
45 Sc #1	555949.81	0.06	456299.72	121.8	60 - 125		555777.63	556355.06	555716.81
45 Sc #3	964099.44	0.55	765061.25	126.0	60 - 125	IS I	959928.94	962288.13	970081.25
74 Ge #1	132181.20	0.16	153441.28	86.1	60 - 125		131940.11	132287.28	132316.22
74 Ge #2	40112.54	0.69	47804.94	83.9	60 - 125		39791.11	40286.61	40259.90
74 Ge #3	197284.39	0.83	224564.78	87.9	60 - 125		195813.00	197002.39	199037.75
89 Y #3	1813906.60	0.82	1302847.50	139.2	60 - 125	IS I	1798674.40	1814613.80	1828431.60
115 In #3	1185660.60	0.54	1366177.60	86.8	60 - 125		1182727.40	1181256.50	1192998.30
159 Tb #3	1842285.60	0.12	2052817.90	89.7	60 - 125		1839790.60	1843085.80	1843980.00
209 Bi #3	1078257.10	0.59	1405468.50	76.7	60 - 125		1073742.80	1075449.90	1085578.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\164_CCV.D\164_CCV.D#
 Date Acquired: Aug 25 2014 06:12 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.45 ug/l	0.81	50.00	89.5 - 110		77914.24	79587.91	79379.91
11 B	98.58 ug/l	0.51	100.00	89.5 - 110		123203.11	122705.79	123777.04
23 Na	5076 ug/l	1.12	5000.00	89.5 - 110		15213190.00	15048793.00	15257681.00
24 Mg	5130 ug/l	0.74	5000.00	89.5 - 110		10743357.00	10667653.00	10680348.00
27 Al	523.8 ug/l	1.35	500.00	89.5 - 110		1313899.80	1292964.80	1286259.00
39 K	4708 ug/l	1.77	5000.00	89.5 - 110		1447467.60	1481829.40	1521083.00
40 Ca	5244 ug/l	0.57	5000.00	89.5 - 110		29984926.00	30022576.00	30179136.00
47 Ti	51.93 ug/l	0.21	50.00	89.5 - 110		51414.54	51648.21	52393.58
51 V	48.53 ug/l	0.96	50.00	89.5 - 110		116788.03	117125.72	120809.48
52 Cr	48.36 ug/l	0.28	50.00	89.5 - 110		141907.97	141672.19	144801.16
55 Mn	500.2 ug/l	0.74	500.00	89.5 - 110		8823799.00	8879180.00	9047158.00
56 Fe	5471 ug/l	0.37	5000.00	89.5 - 110		40862568.00	40928984.00	40953916.00
59 Co	49.57 ug/l	0.14	50.00	89.5 - 110		666524.81	668395.19	672325.25
60 Ni	50.17 ug/l	0.14	50.00	89.5 - 110		54666.81	54455.04	55463.63
63 Cu	49.14 ug/l	0.42	50.00	89.5 - 110		146613.36	147453.44	148799.33
66 Zn	48.99 ug/l	0.20	50.00	89.5 - 110		96364.87	96428.36	97235.81
75 As	50.26 ug/l	0.21	50.00	89.5 - 110		15961.62	16003.66	16215.84
78 Se	51.48 ug/l	0.15	50.00	89.5 - 110		12372.20	12358.86	12338.19
88 Sr	48.56 ug/l	0.49	50.00	89.5 - 110		1153264.80	1166857.60	1171091.40
95 Mo	49.75 ug/l	0.71	50.00	89.5 - 110		186681.97	188399.98	190411.34
107 Ag	48.42 ug/l	0.56	50.00	89.5 - 110		507155.00	514529.38	516442.13
111 Cd	49.36 ug/l	0.53	50.00	89.5 - 110		111674.06	113595.75	113508.68
118 Sn	49.54 ug/l	0.26	50.00	89.5 - 110		355554.56	356739.72	358051.44
121 Sb	48.86 ug/l	0.26	50.00	89.5 - 110		419712.06	421119.09	422709.88
137 Ba	49.06 ug/l	0.42	50.00	89.5 - 110		185899.03	188462.19	186746.72
202 Hg	2.218 ug/l	1.12	2.50	89.5 - 110	Fail	6647.74	6755.78	6893.51
205 Tl	9.7 ug/l	0.46	10.00	89.5 - 110		243963.53	245052.28	249535.52
208 Pb	48.83 ug/l	0.68	50.00	89.5 - 110		1687899.60	1686525.00	1689587.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	361791.16	0.38	442436.88	81.8	60 - 125		360240.25	362277.03	362856.25
45 Sc	386528.56	0.41	456299.72	84.7	60 - 125		385345.53	388311.25	385928.91
45 Sc	676823.56	0.78	765061.25	88.5	60 - 125		672829.25	674813.38	682828.13
74 Ge	138197.27	0.08	153441.28	90.1	60 - 125		138142.14	138317.83	138131.83
74 Ge	42003.35	0.94	47804.94	87.9	60 - 125		41801.07	41752.02	42456.97
74 Ge	207962.53	0.58	224564.78	92.6	60 - 125		206849.94	207796.89	209240.78
89 Y	1233457.10	0.57	1302847.50	94.7	60 - 125		1226039.30	1240085.80	1234246.50
115 In	1278741.50	0.43	1366177.60	93.6	60 - 125		1272441.30	1282469.50	1281313.60
159 Tb	1873429.40	0.75	2052817.90	91.3	60 - 125		1862217.60	1868987.00	1889083.30
209 Bi	1232460.90	0.44	1405468.50	87.7	60 - 125		1228854.40	1238739.10	1229789.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\165_CCB.D\165_CCB.D#
 Date Acquired: Aug 25 2014 06:19 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002179	0.002179	ug/l	56.45	#VALUE!		6.67	3.33	3.33
11 B #3	1.343	1.343	ug/l	5.73	#VALUE!		3707.10	3883.83	3700.45
23 Na #1	-9.786	-9.786	ug/l	1.58	#VALUE!		55537.09	54604.20	54537.58
24 Mg #1	1.027	1.027	ug/l	7.85	#VALUE!		2980.30	3307.05	3223.69
27 Al #1	1.244	1.244	ug/l	3.63	#VALUE!		4514.00	4680.69	4704.03
39 K #2	-11.21	-11.21	ug/l	1.45	#VALUE!		8322.06	8502.17	8472.13
40 Ca #1	0.3066	0.3066	ug/l	30.81	#VALUE!		24392.82	25454.33	24462.96
47 Ti #3	0.1217	0.1217	ug/l	16.40	#VALUE!		206.67	213.34	246.67
51 V #2	-0.01064	-0.01064	ug/l	91.07	#VALUE!		211.11	175.56	176.67
52 Cr #2	-0.01524	-0.01524	ug/l	33.54	#VALUE!		247.78	278.89	250.00
55 Mn #3	0.0412	0.0412	ug/l	9.21	#VALUE!		2033.50	2186.85	2216.86
56 Fe #1	3.027	3.027	ug/l	1.64	#VALUE!		26903.37	27437.73	27464.22
59 Co #3	0.001687	0.001687	ug/l	100.95	#VALUE!		113.34	70.00	83.34
60 Ni #2	-0.006491	-0.006491	ug/l	48.39	#VALUE!		42.22	38.89	36.67
63 Cu #2	-0.06492	-0.06492	ug/l	10.87	#VALUE!		195.56	191.11	232.23
66 Zn #3	-0.08838	-0.08838	ug/l	13.60	#VALUE!		433.35	400.02	450.02
75 As #2	0.00307	0.00307	ug/l	328.99	#VALUE!		18.00	12.33	13.67
78 Se #1	-0.03439	-0.03439	ug/l	22.25	#VALUE!		12.33	11.33	8.67
88 Sr #3	0.001099	0.001099	ug/l	87.55	#VALUE!		150.00	190.01	196.67
95 Mo #3	0.02665	0.02665	ug/l	33.57	#VALUE!		203.34	253.34	186.67
107 Ag #3	-0.00128	-0.00128	ug/l	146.17	#VALUE!		116.67	116.67	83.34
111 Cd #3	0.0006351	0.0006351	ug/l	264.84	#VALUE!		9.96	9.94	3.29
118 Sn #3	0.09722	0.09722	ug/l	8.00	#VALUE!		1433.44	1400.11	1353.43
121 Sb #3	0.0147	0.0147	ug/l	29.84	#VALUE!		206.68	136.67	156.67
137 Ba #3	0.0102	0.0102	ug/l	19.04	#VALUE!		83.34	70.00	76.67
202 Hg #3	-2.96E-005	-2.96E-005	ug/l	6044.60	#VALUE!		125.34	120.67	115.34
205 Tl #3	-0.002714	-0.002714	ug/l	33.56	#VALUE!		100.00	113.34	146.67
208 Pb #3	-0.01756	-0.01756	ug/l	50.77	#VALUE!		1109.50	630.03	526.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	373941.75	1.18	442436.88	84.5	60 - 125		368904.72	375793.69	377126.88
45 Sc #1	398367.69	0.38	456299.72	87.3	60 - 125		399262.41	399231.41	396609.22
45 Sc #3	681990.94	1.12	765061.25	89.1	60 - 125		673149.69	686856.13	685967.00
74 Ge #1	142049.98	0.31	153441.28	92.6	60 - 125		141881.67	142546.59	141721.67
74 Ge #2	42201.61	1.72	47804.94	88.3	60 - 125		41365.68	42636.30	42602.86
74 Ge #3	211426.72	1.58	224564.78	94.1	60 - 125		208120.02	211357.42	214802.70
89 Y #3	1239928.10	1.34	1302847.50	95.2	60 - 125		1221166.40	1252798.60	1245819.50
115 In #3	1292565.10	1.25	1366177.60	94.6	60 - 125		1274121.60	1299341.90	1304231.90
159 Tb #3	1911667.60	0.39	2052817.90	93.1	60 - 125		1904172.50	1911902.50	1918928.30
209 Bi #3	1270113.80	1.38	1405468.50	90.4	60 - 125		1250064.00	1282405.30	1277871.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\166SMPL.D\166SMPL.D#
 Date Acquired: Aug 25 2014 06:26 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-5-b
 Misc Info: 3005 1/5
 Vial Number: 3301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.418	2.418	ug/l	1.86	100.00		3790.48	3923.84	3793.78
11 B # 3	1.188	1.188	ug/l	10.02	1800.00		3590.40	3553.74	3350.37
23 Na # 1	179	179	ug/l	0.68	81000.00		962499.13	953583.31	953719.25
24 Mg # 1	15160	15160	ug/l	0.77	81000.00		49332020.00	48990284.00	49271708.00
27 Al # 1	31390	31390	ug/l	0.70	81000.00		120591060.00	120994320.00	121140770.00
39 K # 2	15630	15630	ug/l	1.14	81000.00		4849774.00	4905943.50	5024236.00
40 Ca # 1	1108	1108	ug/l	0.38	81000.00		9950389.00	9909315.00	9884416.00
47 Ti # 3	2612	2612	ug/l	0.68	1620.00	Fail	4099133.30	4163120.80	4192808.80
51 V # 2	146.9	146.9	ug/l	0.62	1800.00		355365.13	359412.59	363909.94
52 Cr # 2	78.46	78.46	ug/l	0.96	1800.00		229255.02	233488.53	235820.72
55 Mn # 3	801.9	801.9	ug/l	0.69	1800.00		14497496.00	14659550.00	14736483.00
56 Fe # 1	46200	46200	ug/l	0.28	81000.00		539298750.00	538018750.00	535722980.00
59 Co # 3	39.15	39.15	ug/l	0.62	1800.00		535285.75	542348.88	545222.56
60 Ni # 2	39.17	39.17	ug/l	0.87	1800.00		42592.06	43349.36	43338.26
63 Cu # 2	45.35	45.35	ug/l	0.39	1800.00		135857.75	136981.89	138430.17
66 Zn # 3	78.61	78.61	ug/l	1.16	1800.00		156395.19	160029.38	158847.03
75 As # 2	1.592	1.592	ug/l	2.77	100.00		513.34	539.34	522.34
78 Se # 1	0.4016	0.4016	ug/l	7.26	100.00		122.33	119.33	108.00
88 Sr # 3	5.705	5.705	ug/l	0.53	1800.00		200204.45	201747.28	201664.61
95 Mo # 3	0.6146	0.6146	ug/l	3.06	1800.00		2423.58	2363.55	2516.92
107 Ag # 3	0.02448	0.02448	ug/l	12.74	100.00		366.68	413.35	350.01
111 Cd # 3	0.03302	0.03302	ug/l	19.71	100.00		72.80	72.82	99.45
118 Sn # 3	5.011	5.011	ug/l	0.98	1800.00		36408.67	36332.16	37197.24
121 Sb # 3	0.02779	0.02779	ug/l	14.56	100.00		243.34	273.34	316.68
137 Ba # 3	351.2	351.2	ug/l	0.69	1800.00		1335447.30	1331800.60	1342511.30
202 Hg # 3	0.003407	0.003407	ug/l	163.60	5.00		124.00	150.01	119.33
205 Tl # 3	0.6621	0.6621	ug/l	0.68	20.00		17253.17	17266.47	17530.15
208 Pb # 3	6.707	6.707	ug/l	1.96	1800.00		239596.95	237592.97	237083.41
232 Th # 3	6.017	6.017	ug/l	0.87	#VALUE!		209188.50	208161.23	212029.58
238 U # 3	1.984	1.984	ug/l	0.94	#VALUE!		71811.16	71319.02	72869.62

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	366686.28	0.69	442436.88	82.9	60 - 125		363821.44	367632.38	368605.03
45 Sc # 1	601607.31	0.53	456299.72	131.8	60 - 125	IS I	603042.31	603810.56	597969.19
45 Sc # 3	1080149.80	1.46	765061.25	141.2	60 - 125	IS I	1062210.90	1091678.40	1086560.30
74 Ge # 1	140061.31	0.42	153441.28	91.3	60 - 125		140492.83	140297.17	139393.92
74 Ge # 2	42250.59	0.71	47804.94	88.4	60 - 125		42059.41	42096.17	42596.18
74 Ge # 3	212897.89	1.48	224564.78	94.8	60 - 125		209796.61	212790.33	216106.72
89 Y # 3	1813227.50	0.69	1302847.50	139.2	60 - 125	IS I	1803513.50	1808802.00	1827366.60
115 In # 3	1276765.30	0.78	1366177.60	93.5	60 - 125		1265854.60	1279211.50	1285229.40
159 Tb # 3	1914627.60	1.44	2052817.90	93.3	60 - 125		1889350.40	1910648.80	1943883.90
209 Bi # 3	1165236.90	1.28	1405468.50	82.9	60 - 125		1150711.80	1164496.10	1180502.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\167SMPL.D\167SMPL.D#
 Date Acquired: Aug 25 2014 06:34 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-6-b
 Misc Info: 3005 1/5
 Vial Number: 3302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Stop
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	2.269	2.269	ug/l	2.87	100.00		3283.69	3197.01	3360.37
11 B #3	1.143	1.143	ug/l	11.33	1800.00		2930.30	3257.02	3227.02
23 Na #1	95.2	95.2	ug/l	1.63	81000.00		454718.94	449001.81	455886.34
24 Mg #1	3371	3371	ug/l	0.40	81000.00		8614660.00	8706328.00	8839294.00
27 Al #1	27370	27370	ug/l	0.24	81000.00		83226272.00	84326280.00	84581384.00
39 K #2	1561	1561	ug/l	1.10	81000.00		434617.84	446763.28	451325.97
40 Ca #1	1637	1637	ug/l	0.49	81000.00		11598678.00	11625368.00	11750813.00
47 Ti #3	1405	1405	ug/l	1.30	1620.00		1799073.30	1804573.80	1833018.90
51 V #2	119.9	119.9	ug/l	0.53	1800.00		255644.72	260131.63	262673.75
52 Cr #2	58.75	58.75	ug/l	0.43	1800.00		151921.41	154200.66	156359.58
55 Mn #3	749.2	749.2	ug/l	0.28	1800.00		12000535.00	12178136.00	12230996.00
56 Fe #1	35410	35410	ug/l	0.55	81000.00		325857310.00	330091200.00	329311390.00
59 Co #3	24.71	24.71	ug/l	0.19	1800.00		301287.91	303779.09	304272.50
60 Ni #2	25.41	25.41	ug/l	0.46	1800.00		24550.80	24723.20	24907.90
63 Cu #2	42.33	42.33	ug/l	0.44	1800.00		112170.97	113181.78	113979.97
66 Zn #3	40.29	40.29	ug/l	0.46	1800.00		72054.66	72191.81	72794.00
75 As #2	2.989	2.989	ug/l	2.98	100.00		824.35	878.69	879.02
78 Se #1	0.4955	0.4955	ug/l	0.54	100.00		121.33	122.33	122.67
88 Sr #3	5.652	5.652	ug/l	0.23	1800.00		202283.48	205377.86	207205.55
95 Mo #3	0.5333	0.5333	ug/l	2.38	1800.00		1903.49	1903.50	1990.18
107 Ag #3	0.01339	0.01339	ug/l	24.74	100.00		253.34	253.34	200.01
111 Cd #3	0.04681	0.04681	ug/l	32.07	100.00		69.58	132.92	106.23
118 Sn #3	3.411	3.411	ug/l	0.67	1800.00		22591.93	22838.98	23139.27
121 Sb #3	0.09329	0.09329	ug/l	5.72	100.00		713.37	806.71	773.37
137 Ba #3	173.5	173.5	ug/l	0.42	1800.00		594171.56	600047.31	605530.25
202 Hg #3	0.02282	0.02282	ug/l	13.89	5.00		184.67	168.00	184.34
205 Tl #3	0.2476	0.2476	ug/l	2.03	20.00		6151.40	6281.45	6181.43
208 Pb #3	22.84	22.84	ug/l	0.86	1800.00		750321.75	760340.81	764845.38
232 Th #3	4.917	4.917	ug/l	0.71	#VALUE!		162004.27	165493.47	164047.94
238 U #3	1.302	1.302	ug/l	0.69	#VALUE!		44779.36	45534.80	45097.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	334237.72	1.10	442436.88	75.5	60 - 125		330039.59	336801.41	335872.13
45 Sc #1	479461.38	0.99	456299.72	105.1	60 - 125		474438.81	480110.81	483834.50
45 Sc #3	876316.44	0.67	765061.25	114.5	60 - 125		871913.31	882948.00	874088.19
74 Ge #1	122745.15	0.11	153441.28	80.0	60 - 125		122591.38	122830.91	122813.16
74 Ge #2	37343.71	1.15	47804.94	78.1	60 - 125		36980.77	37234.57	37815.78
74 Ge #3	189003.88	0.71	224564.78	84.2	60 - 125		187470.41	189527.86	190013.36
89 Y #3	1864274.10	1.15	1302847.50	143.1	60 - 125	IS I	1843397.90	1863242.00	1886182.50
115 In #3	1159838.00	0.82	1366177.60	84.9	60 - 125		1148852.60	1164980.00	1165681.60
159 Tb #3	1797990.00	1.53	2052817.90	87.6	60 - 125		1777311.30	1787471.30	1829187.50
209 Bi #3	1113252.90	0.71	1405468.50	79.2	60 - 125		1104488.10	1115306.50	1119964.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\168SMPL.D\168SMPL.D#
 Date Acquired: Aug 25 2014 06:41 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-7-b
 Misc Info: 3005 1/5
 Vial Number: 3303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	3.195	3.195	ug/l	3.15	100.00		4403.93	4774.01	4627.33
11 B #3	1.049	1.049	ug/l	8.23	1800.00		2910.30	2990.30	3153.67
23 Na #1	102.6	102.6	ug/l	0.52	81000.00		562378.19	566107.94	565434.81
24 Mg #1	3181	3181	ug/l	0.58	81000.00		9626462.00	9650357.00	9720522.00
27 Al #1	30560	30560	ug/l	0.69	81000.00		109766250.00	111089940.00	109788450.00
39 K #2	1430	1430	ug/l	17.35	81000.00		400790.25	414837.22	418869.47
40 Ca #1	1195	1195	ug/l	0.41	81000.00		10062283.00	9994897.00	9968741.00
47 Ti #3	1543	1543	ug/l	0.72	1620.00		2206270.50	2206707.30	2219424.80
51 V #2	173.2	173.2	ug/l	17.23	1800.00		367879.75	382804.50	382992.84
52 Cr #2	60.19	60.19	ug/l	17.63	1800.00		154891.05	162168.17	160714.41
55 Mn #3	818.2	818.2	ug/l	0.82	1800.00		13323775.00	13205535.00	13375580.00
56 Fe #1	43700	43700	ug/l	0.47	81000.00		475965630.00	478582180.00	473858110.00
59 Co #3	24.53	24.53	ug/l	1.01	1800.00		302956.81	301558.81	301425.09
60 Ni #2	26.78	26.78	ug/l	17.40	1800.00		25494.29	26631.39	26710.40
63 Cu #2	47.27	47.27	ug/l	16.84	1800.00		124946.81	128717.50	128650.17
66 Zn #3	115.5	115.5	ug/l	1.01	1800.00		207691.72	207345.41	206633.72
75 As #2	3.784	3.784	ug/l	17.27	100.00		1074.03	1111.37	1102.37
78 Se #1	0.6756	0.6756	ug/l	11.94	100.00		180.33	174.00	147.00
88 Sr #3	4.587	4.587	ug/l	0.34	1800.00		178886.30	178455.56	177518.86
95 Mo #3	0.5913	0.5913	ug/l	4.79	1800.00		2253.54	2063.51	2136.87
107 Ag #3	0.02472	0.02472	ug/l	10.66	100.00		320.01	350.01	373.35
111 Cd #3	0.1891	0.1891	ug/l	13.17	100.00		406.19	346.23	452.88
118 Sn #3	4.02	4.02	ug/l	1.12	1800.00		26868.05	26828.03	27545.81
121 Sb #3	0.1044	0.1044	ug/l	4.54	100.00		896.72	823.38	856.71
137 Ba #3	195.4	195.4	ug/l	0.16	1800.00		679654.50	681542.19	683894.19
202 Hg #3	0.02496	0.02496	ug/l	2.62	5.00		184.00	187.34	187.00
205 Tl #3	0.2412	0.2412	ug/l	1.83	20.00		5941.31	6161.38	6141.41
208 Pb #3	35.25	35.25	ug/l	1.33	1800.00		1177784.10	1178820.40	1170859.80
232 Th #3	10.27	10.27	ug/l	1.77	#VALUE!		339904.44	341635.41	339400.28
238 U #3	1.799	1.799	ug/l	1.37	#VALUE!		61731.32	62337.22	62223.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	332820.09	1.12	442436.88	75.2	60 - 125		328549.94	334493.22	335417.13
45 Sc #1	563242.13	0.07	456299.72	123.4	60 - 125		563644.44	563250.44	562831.44
45 Sc #3	973778.94	0.75	765061.25	127.3	60 - 125	IS I	979155.00	965452.81	976728.81
74 Ge #1	127855.02	0.14	153441.28	83.3	60 - 125		127651.52	127915.48	127998.05
74 Ge #2	38330.22	15.06	47804.94	80.2	60 - 125		43872.64	32355.84	38762.20
74 Ge #3	189694.92	0.75	224564.78	84.5	60 - 125		188295.08	189632.52	191157.16
89 Y #3	1997752.90	0.70	1302847.50	153.3	60 - 125	IS I	2012146.30	1996956.60	1984156.00
115 In #3	1170638.80	0.40	1366177.60	85.7	60 - 125		1167586.30	1168310.60	1176019.30
159 Tb #3	1807315.40	0.98	2052817.90	88.0	60 - 125		1796209.10	1798085.40	1827651.90
209 Bi #3	1108300.80	1.59	1405468.50	78.9	60 - 125		1094394.10	1102325.30	1128182.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 2 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\169_QCS.D\169_QCS.D#
 Date Acquired: Aug 25 2014 06:48 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	25.40	0.10 69.5 - 130	
11 B	19.57 ug/l	1.89	20.00 69.5 - 130	
23 Na	43.93 ug/l	1.01	50.00 69.5 - 130	
24 Mg	57.05 ug/l	0.63	50.00 69.5 - 130	
27 Al	15.77 ug/l	0.91	10.00 69.5 - 130	Fail
39 K	45.85 ug/l	30.77	50.00 69.5 - 130	
40 Ca	59.43 ug/l	1.30	50.00 69.5 - 130	
47 Ti	1.26 ug/l	5.28	1.00 69.5 - 130	
51 V	0.97 ug/l	1.99	1.00 69.5 - 130	
52 Cr	1.09 ug/l	3.35	1.00 69.5 - 130	
55 Mn	1.15 ug/l	0.91	1.00 69.5 - 130	
56 Fe	30.06 ug/l	0.46	20.00 69.5 - 130	Fail
59 Co	0.11 ug/l	7.65	0.10 69.5 - 130	
60 Ni	1.12 ug/l	1.55	1.00 69.5 - 130	
63 Cu	0.97 ug/l	1.13	1.00 69.5 - 130	
66 Zn	4.20 ug/l	3.33	4.00 69.5 - 130	
75 As	0.48 ug/l	6.95	0.50 69.5 - 130	
78 Se	0.44 ug/l	4.17	0.50 69.5 - 130	
88 Sr	0.20 ug/l	1.61	0.20 69.5 - 130	
95 Mo	0.96 ug/l	3.86	1.00 69.5 - 130	
107 Ag	0.20 ug/l	2.22	0.20 69.5 - 130	
111 Cd	0.10 ug/l	7.08	0.10 69.5 - 130	
118 Sn	1.08 ug/l	3.54	1.00 69.5 - 130	
121 Sb	1.01 ug/l	0.64	1.00 69.5 - 130	
137 Ba	1.00 ug/l	1.67	1.00 69.5 - 130	
202 Hg	0.15 ug/l	6.09	0.16 69.5 - 130	
205 Tl	0.20 ug/l	2.55	0.20 69.5 - 130	
208 Pb	0.28 ug/l	3.51	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	312388.50	0.36	442436.88	70.6	60 - 125		
45 Sc	330497.31	0.53	456299.72	72.4	60 - 125		
45 Sc	554127.31	0.37	765061.25	72.4	60 - 125		
74 Ge	118302.88	0.25	153441.28	77.1	60 - 125		
74 Ge	34851.79	1.14	47804.94	72.9	60 - 125		
74 Ge	172907.38	0.66	224564.78	77.0	60 - 125		
89 Y	1045765.10	0.08	1302847.50	80.3	60 - 125		
115 In	1112353.90	0.90	1366177.60	81.4	60 - 125		
159 Tb	1667860.80	0.44	2052817.90	81.2	60 - 125		
209 Bi	1096584.60	0.65	1405468.50	78.0	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\170_CCV.D\170_CCV.D#
 Date Acquired: Aug 25 2014 06:56 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.95 ug/l	1.05	50.00	89.5 - 110		68696.93	69840.70	69737.27
11 B	97.7 ug/l	1.12	100.00	89.5 - 110		106579.30	109270.65	109559.45
23 Na	5080 ug/l	0.55	5000.00	89.5 - 110		13287691.00	13269535.00	13250682.00
24 Mg	5131 ug/l	0.52	5000.00	89.5 - 110		9342603.00	9304606.00	9406123.00
27 Al	520.8 ug/l	1.22	500.00	89.5 - 110		1114955.40	1120437.80	1147431.60
39 K	4625 ug/l	0.84	5000.00	89.5 - 110		1239495.30	1270204.60	1283946.10
40 Ca	5223 ug/l	0.51	5000.00	89.5 - 110		26159308.00	26043452.00	26287470.00
47 Ti	51.72 ug/l	1.34	50.00	89.5 - 110		44927.79	44914.21	45101.40
51 V	47.84 ug/l	0.08	50.00	89.5 - 110		100090.25	101201.63	102101.20
52 Cr	48.17 ug/l	1.01	50.00	89.5 - 110		121315.60	122814.20	126144.99
55 Mn	505.2 ug/l	0.62	500.00	89.5 - 110		7890943.00	7903955.00	8028805.00
56 Fe	5508 ug/l	0.45	5000.00	89.5 - 110		35891184.00	36146052.00	35931392.00
59 Co	48.86 ug/l	0.65	50.00	89.5 - 110		575294.75	582773.31	586837.50
60 Ni	49.04 ug/l	0.18	50.00	89.5 - 110		46109.25	46581.60	46929.06
63 Cu	48.38 ug/l	0.41	50.00	89.5 - 110		124281.91	126245.41	127911.04
66 Zn	49.92 ug/l	0.95	50.00	89.5 - 110		86137.91	87129.43	87326.72
75 As	50.12 ug/l	0.60	50.00	89.5 - 110		13695.13	13992.36	14010.03
78 Se	51.32 ug/l	1.17	50.00	89.5 - 110		10877.59	10735.51	10841.57
88 Sr	48.89 ug/l	1.32	50.00	89.5 - 110		1037126.90	1047929.30	1056078.40
95 Mo	48.49 ug/l	0.81	50.00	89.5 - 110		166201.83	167776.41	170636.30
107 Ag	47.41 ug/l	1.30	50.00	89.5 - 110		457865.19	458932.28	461974.31
111 Cd	48.76 ug/l	0.74	50.00	89.5 - 110		100735.91	101912.48	103713.13
118 Sn	49.57 ug/l	0.58	50.00	89.5 - 110		322778.53	328552.03	329052.53
121 Sb	49.04 ug/l	0.61	50.00	89.5 - 110		382125.63	387161.16	391777.81
137 Ba	49.2 ug/l	0.96	50.00	89.5 - 110		170371.52	171700.42	172946.53
202 Hg	2.128 ug/l	0.77	2.50	89.5 - 110	Fail	6094.53	6107.52	6162.20
205 Tl	9.769 ug/l	0.59	10.00	89.5 - 110		233625.64	233534.61	233736.09
208 Pb	48.84 ug/l	0.72	50.00	89.5 - 110		1574596.40	1594780.40	1603808.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	321300.09	1.26	442436.88	72.6	60 - 125		318303.78	319681.78	325914.78
45 Sc	337770.88	0.41	456299.72	74.0	60 - 125		336230.44	338118.16	338964.06
45 Sc	589999.44	1.55	765061.25	77.1	60 - 125		581759.38	588429.44	599809.50
74 Ge	121370.30	0.67	153441.28	79.1	60 - 125		120471.09	121607.39	122032.44
74 Ge	36447.44	1.04	47804.94	76.2	60 - 125		36072.23	36443.00	36827.07
74 Ge	183419.30	1.50	224564.78	81.7	60 - 125		181005.72	182843.48	186408.67
89 Y	1102463.40	2.22	1302847.50	84.6	60 - 125		1077279.10	1103882.60	1126228.50
115 In	1170698.90	1.63	1366177.60	85.7	60 - 125		1148982.30	1178306.90	1184807.40
159 Tb	1765374.10	0.57	2052817.90	86.0	60 - 125		1755621.30	1775647.60	1764853.30
209 Bi	1147561.90	2.56	1405468.50	81.6	60 - 125		1113639.60	1165200.10	1163845.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\171_CCB.D\171_CCB.D#
 Date Acquired: Aug 25 2014 07:03 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005541	0.005541	ug/l	24.69	#VALUE!		10.00	10.00	6.67
11 B # 3	1.262	1.262	ug/l	0.62	#VALUE!		3260.35	3293.69	3323.70
23 Na # 1	-10.27	-10.27	ug/l	2.05	#VALUE!		47672.97	46777.27	47128.24
24 Mg # 1	0.1911	0.1911	ug/l	31.93	#VALUE!		1210.07	1106.73	1326.75
27 Al # 1	0.3442	0.3442	ug/l	17.19	#VALUE!		2060.16	1946.82	2193.52
39 K # 2	-9.737	-9.737	ug/l	1.05	#VALUE!		7915.21	7981.91	7861.89
40 Ca # 1	0.06999	0.06999	ug/l	46.21	#VALUE!		20484.82	20775.27	20715.27
47 Ti # 3	0.05977	0.05977	ug/l	193.91	#VALUE!		76.67	260.26	86.67
51 V # 2	-0.01487	-0.01487	ug/l	36.79	#VALUE!		164.45	145.56	164.45
52 Cr # 2	-0.02045	-0.02045	ug/l	13.97	#VALUE!		224.45	213.34	212.23
55 Mn # 3	0.03294	0.03294	ug/l	18.71	#VALUE!		1866.82	1736.79	1696.79
56 Fe # 1	1.507	1.507	ug/l	2.42	#VALUE!		13575.34	13698.74	13962.29
59 Co # 3	0.001499	0.001499	ug/l	125.48	#VALUE!		60.00	66.67	103.34
60 Ni # 2	-0.0135	-0.0135	ug/l	46.94	#VALUE!		30.00	33.33	21.11
63 Cu # 2	-0.06463	-0.06463	ug/l	8.76	#VALUE!		173.34	203.34	176.67
66 Zn # 3	-0.1079	-0.1079	ug/l	20.98	#VALUE!		300.01	350.01	383.35
75 As # 2	-0.003044	-0.003044	ug/l	536.47	#VALUE!		8.67	8.67	16.67
78 Se # 1	-0.03129	-0.03129	ug/l	31.05	#VALUE!		8.00	12.00	11.00
88 Sr # 3	0.001318	0.001318	ug/l	80.20	#VALUE!		140.00	170.01	186.67
95 Mo # 3	0.02196	0.02196	ug/l	31.61	#VALUE!		196.67	190.01	153.34
107 Ag # 3	-0.0001848	-0.0001848	ug/l	1360.40	#VALUE!		86.67	136.67	100.00
111 Cd # 3	0.00041	0.00041	ug/l	9.49	#VALUE!		6.62	6.63	6.63
118 Sn # 3	0.0944	0.0944	ug/l	12.11	#VALUE!		1180.08	1253.42	1350.10
121 Sb # 3	0.0206	0.0206	ug/l	16.06	#VALUE!		226.67	193.34	180.01
137 Ba # 3	0.006654	0.006654	ug/l	31.24	#VALUE!		63.34	60.00	50.00
202 Hg # 3	-0.0002475	-0.0002475	ug/l	3646.10	#VALUE!		138.34	92.67	99.33
205 Tl # 3	-0.004316	-0.004316	ug/l	1.50	#VALUE!		70.00	73.34	73.34
208 Pb # 3	-0.02191	-0.02191	ug/l	6.13	#VALUE!		530.02	603.36	530.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	336253.47	1.12	442436.88	76.0	60 - 125		332059.94	337293.56	339406.81
45 Sc # 1	352110.56	0.48	456299.72	77.2	60 - 125		352178.03	353758.47	350395.25
45 Sc # 3	600493.63	0.82	765061.25	78.5	60 - 125		594799.81	603260.94	603420.06
74 Ge # 1	127345.14	0.89	153441.28	83.0	60 - 125		128555.52	127185.80	126294.13
74 Ge # 2	37569.36	0.66	47804.94	78.6	60 - 125		37418.34	37854.75	37435.00
74 Ge # 3	187231.25	0.59	224564.78	83.4	60 - 125		186163.13	187166.77	188363.84
89 Y # 3	1115322.60	0.64	1302847.50	85.6	60 - 125		1107499.30	1121426.50	1117042.00
115 In # 3	1184755.90	1.27	1366177.60	86.7	60 - 125		1168031.90	1197074.60	1189161.10
159 Tb # 3	1758676.60	0.84	2052817.90	85.7	60 - 125		1746051.40	1755085.80	1774892.30
209 Bi # 3	1192272.50	0.62	1405468.50	84.8	60 - 125		1198206.60	1194587.80	1184023.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures 0 : Max. Number of Failures Allowed
 0 : ISTD Failures 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\172SMPL.D\172SMPL.D#
 Date Acquired: Aug 25 2014 07:11 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345427_1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3304
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	0.6953	0.6953	ug/l	2.62	1800.00		2640.25	2660.26	2683.58
23 Na # 1	-9.67	-9.67	ug/l	1.35	81000.00		49487.36	49477.23	49614.56
24 Mg # 1	0.3306	0.3306	ug/l	12.31	81000.00		1493.43	1420.09	1590.11
27 Al # 1	1.205	1.205	ug/l	16.93	81000.00		4621.32	3677.13	3903.84
39 K # 2	-8.119	-8.119	ug/l	10.71	81000.00		8365.43	8615.55	8242.02
40 Ca # 1	2.562	2.562	ug/l	2.91	81000.00		34475.26	34171.37	33780.77
47 Ti # 3	0.004729	0.004729	ug/l	277.23	1620.00		80.00	96.67	103.34
51 V # 2	-0.01115	-0.01115	ug/l	48.25	1800.00		174.45	153.34	173.34
52 Cr # 2	-0.03023	-0.03023	ug/l	17.75	1800.00		178.89	186.67	210.00
55 Mn # 3	0.02151	0.02151	ug/l	29.19	1800.00		1480.10	1693.45	1606.78
56 Fe # 1	0.7228	0.7228	ug/l	8.73	81000.00		8322.10	8205.38	9049.13
59 Co # 3	-0.001075	-0.001075	ug/l	172.84	1800.00		53.34	63.34	20.00
60 Ni # 2	0.1046	0.1046	ug/l	16.14	1800.00		157.78	146.67	127.78
63 Cu # 2	-0.06414	-0.06414	ug/l	18.37	1800.00		148.89	200.00	211.11
66 Zn # 3	0.02428	0.02428	ug/l	153.87	1800.00		606.69	630.03	506.69
75 As # 2	-0.004413	-0.004413	ug/l	95.08	100.00		10.00	12.33	10.67
78 Se # 1	-0.04457	-0.04457	ug/l	5.46	100.00		8.00	7.33	7.00
88 Sr # 3	0.000528	0.000528	ug/l	203.41	1800.00		163.34	160.01	123.34
95 Mo # 3	-0.007285	-0.007285	ug/l	71.11	1800.00		83.34	93.34	56.67
107 Ag # 3	-0.002001	-0.002001	ug/l	26.16	100.00		83.34	93.34	93.34
111 Cd # 3	0.0009278	0.0009278	ug/l	90.72	100.00		6.65	9.98	6.65
118 Sn # 3	0.06813	0.06813	ug/l	16.63	1800.00		1163.41	1056.73	1043.40
121 Sb # 3	0.007469	0.007469	ug/l	22.64	100.00		80.00	100.00	106.67
137 Ba # 3	0.001272	0.001272	ug/l	450.39	1800.00		20.00	36.67	60.00
202 Hg # 3	-0.01322	-0.01322	ug/l	16.22	5.00		74.67	80.00	67.33
205 Tl # 3	-0.005721	-0.005721	ug/l	5.13	20.00		36.67	33.33	46.67
208 Pb # 3	-0.02408	-0.02408	ug/l	4.58	1800.00		520.02	463.35	473.35
232 Th # 3	0.01863	0.01863	ug/l	3.69	#VALUE!		916.72	956.74	893.39
238 U # 3	0.000146	0.000146	ug/l	152.74	#VALUE!		40.00	33.33	23.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	338369.63	0.25	442436.88	76.5	60 - 125		337642.88	339307.78	338158.25
45 Sc # 1	357117.88	0.76	456299.72	78.3	60 - 125		359305.41	354096.69	357951.50
45 Sc # 3	607222.50	0.39	765061.25	79.4	60 - 125		604534.56	608832.13	608300.75
74 Ge # 1	127943.12	0.51	153441.28	83.4	60 - 125		127517.25	127619.23	128692.87
74 Ge # 2	37734.90	1.01	47804.94	78.9	60 - 125		37410.56	37641.00	38153.14
74 Ge # 3	188351.88	0.43	224564.78	83.9	60 - 125		187416.17	188794.02	188845.41
89 Y # 3	1120334.00	0.99	1302847.50	86.0	60 - 125		1108643.60	1121580.90	1130777.30
115 In # 3	1187407.10	1.53	1366177.60	86.9	60 - 125		1175322.80	1208283.90	1178614.50
159 Tb # 3	1765407.00	1.19	2052817.90	86.0	60 - 125		1744017.30	1785865.80	1766338.10
209 Bi # 3	1203286.80	0.80	1405468.50	85.6	60 - 125		1199651.50	1214234.10	1195974.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\173SMPL.D\173SMPL.D#
 Date Acquired: Aug 25 2014 07:18 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345427_2-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3305
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.24	10.24	ug/l	2.76	100.00		15029.40	14962.72	15886.79
11 B # 3	40.01	40.01	ug/l	1.13	1800.00		48337.13	48404.00	49783.94
23 Na # 1	1048	1048	ug/l	0.84	81000.00		2940361.00	2982745.30	3015834.80
24 Mg # 1	1081	1081	ug/l	0.83	81000.00		2089204.80	2118191.30	2094889.50
27 Al # 1	1050	1050	ug/l	0.38	81000.00		2410525.50	2431500.30	2426460.30
39 K # 2	930.9	930.9	ug/l	0.46	81000.00		271917.09	274820.81	278064.22
40 Ca # 1	1083	1083	ug/l	0.51	81000.00		5806445.00	5795231.50	5801116.50
47 Ti # 3	20.13	20.13	ug/l	2.23	1620.00		17678.75	18532.88	18619.67
51 V # 2	19.32	19.32	ug/l	0.91	1800.00		42737.44	42480.24	43337.80
52 Cr # 2	19.68	19.68	ug/l	0.31	1800.00		52313.84	53129.40	53330.06
55 Mn # 3	104.2	104.2	ug/l	0.98	1800.00		1667408.50	1708103.90	1715231.90
56 Fe # 1	1113	1113	ug/l	0.33	81000.00		7749156.50	7727502.50	7795803.00
59 Co # 3	10.07	10.07	ug/l	1.27	1800.00		123988.98	123274.40	125253.56
60 Ni # 2	20.3	20.3	ug/l	0.21	1800.00		19976.39	20260.02	20303.43
63 Cu # 2	19.66	19.66	ug/l	0.35	1800.00		53405.66	53776.77	54396.20
66 Zn # 3	20.5	20.5	ug/l	1.48	1800.00		37084.56	36940.96	37756.43
75 As # 2	20.44	20.44	ug/l	1.48	100.00		5852.61	5885.63	6076.02
78 Se # 1	21.4	21.4	ug/l	1.01	100.00		4830.98	4762.97	4844.32
88 Sr # 3	18.84	18.84	ug/l	0.93	1800.00		411891.34	416091.22	417829.16
95 Mo # 3	19.44	19.44	ug/l	0.28	1800.00		68221.23	68484.94	69592.99
107 Ag # 3	9.935	9.935	ug/l	0.20	100.00		97482.97	97885.35	99303.67
111 Cd # 3	10.07	10.07	ug/l	1.51	100.00		21358.56	21128.33	22002.40
118 Sn # 3	40.82	40.82	ug/l	0.60	1800.00		273327.91	274673.31	275027.47
121 Sb # 3	10.08	10.08	ug/l	0.96	100.00		80604.10	80128.93	82513.24
137 Ba # 3	19.72	19.72	ug/l	0.29	1800.00		69592.56	70275.34	70610.15
202 Hg # 3	0.9421	0.9421	ug/l	1.53	5.00		2761.92	2759.91	2832.93
205 Tl # 3	7.865	7.865	ug/l	0.95	20.00		189026.50	188099.73	190021.06
208 Pb # 3	10.06	10.06	ug/l	0.69	1800.00		328480.63	329585.56	332853.47
232 Th # 3	10.1	10.1	ug/l	0.89	#VALUE!		357372.75	359788.94	362663.63
238 U # 3	9.922	9.922	ug/l	0.51	#VALUE!		365709.53	365478.28	373119.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	345102.53	0.93	442436.88	78.0	60 - 125		341634.59	345731.09	347941.88
45 Sc # 1	360066.75	0.46	456299.72	78.9	60 - 125		358495.19	359891.16	361813.88
45 Sc # 3	613891.00	0.89	765061.25	80.2	60 - 125		609235.31	612551.38	619886.31
74 Ge # 1	129216.61	0.25	153441.28	84.2	60 - 125		129510.17	129263.55	128876.11
74 Ge # 2	38136.07	0.73	47804.94	79.8	60 - 125		37829.13	38203.24	38375.83
74 Ge # 3	189940.73	0.77	224564.78	84.6	60 - 125		188412.58	191350.28	190059.34
89 Y # 3	1134087.00	1.28	1302847.50	87.0	60 - 125		1126272.10	1125114.80	1150874.00
115 In # 3	1192802.30	0.88	1366177.60	87.3	60 - 125		1183077.60	1191335.40	1203993.90
159 Tb # 3	1773949.10	0.71	2052817.90	86.4	60 - 125		1759821.30	1783882.60	1778143.30
209 Bi # 3	1191576.50	1.09	1405468.50	84.8	60 - 125		1190784.60	1179022.90	1204921.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\174SMPL.D\174SMPL.D#
 Date Acquired: Aug 25 2014 07:25 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62298-o-1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3306
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	40.64	40.64	ug/l	0.97	1800.00		50054.96	50742.84	50759.56
23 Na # 1	41890	41890	ug/l	0.55	81000.00		122714540.00	122522130.00	123255540.00
24 Mg # 1	2462	2462	ug/l	1.21	81000.00		5095111.00	5035468.50	5053213.50
27 Al # 1	3.501	3.501	ug/l	1.48	81000.00		9939.48	9806.06	10072.93
39 K # 2	2405	2405	ug/l	0.88	81000.00		725576.00	730445.94	748486.56
40 Ca # 1	15970	15970	ug/l	1.65	81000.00		91201096.00	89845368.00	89531816.00
47 Ti # 3	0.29	0.29	ug/l	9.21	1620.00		373.35	396.68	350.01
51 V # 2	0.3221	0.3221	ug/l	7.78	1800.00		897.81	950.03	1030.04
52 Cr # 2	0.06465	0.06465	ug/l	5.83	1800.00		461.12	485.57	476.68
55 Mn # 3	2.27	2.27	ug/l	0.95	1800.00		39799.74	40127.24	40080.46
56 Fe # 1	8.582	8.582	ug/l	0.69	81000.00		66863.77	67271.86	66924.42
59 Co # 3	0.04023	0.04023	ug/l	4.19	1800.00		563.36	580.03	600.03
60 Ni # 2	0.7118	0.7118	ug/l	1.76	1800.00		772.25	803.36	803.36
63 Cu # 2	0.2845	0.2845	ug/l	2.24	1800.00		1197.83	1221.16	1195.61
66 Zn # 3	2.844	2.844	ug/l	1.55	1800.00		5864.42	5897.79	5947.80
75 As # 2	0.3369	0.3369	ug/l	2.59	100.00		114.00	119.67	116.33
78 Se # 1	1.016	1.016	ug/l	1.26	100.00		258.34	253.34	257.34
88 Sr # 3	53.13	53.13	ug/l	0.50	1800.00		1208266.40	1219055.60	1220608.40
95 Mo # 3	0.4211	0.4211	ug/l	4.94	1800.00		1636.79	1713.47	1590.12
107 Ag # 3	-0.003656	-0.003656	ug/l	17.05	100.00		83.34	70.00	76.67
111 Cd # 3	0.009195	0.009195	ug/l	16.84	100.00		29.64	26.29	22.98
118 Sn # 3	0.129	0.129	ug/l	16.01	1800.00		1583.46	1666.80	1410.10
121 Sb # 3	0.2176	0.2176	ug/l	3.41	100.00		1786.82	1893.50	1863.49
137 Ba # 3	2.33	2.33	ug/l	2.03	1800.00		8485.66	8735.84	8615.74
202 Hg # 3	-0.01086	-0.01086	ug/l	20.97	5.00		87.34	88.00	75.33
205 Tl # 3	0.006113	0.006113	ug/l	24.33	20.00		306.68	376.68	316.68
208 Pb # 3	-0.006353	-0.006353	ug/l	9.90	1800.00		1080.05	1113.39	1110.05
232 Th # 3	0.1103	0.1103	ug/l	6.92	#VALUE!		4387.46	3977.30	4054.00
238 U # 3	0.01615	0.01615	ug/l	6.37	#VALUE!		573.36	630.03	656.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	351664.72	1.47	442436.88	79.5	60 - 125		346864.59	350987.69	357141.91
45 Sc # 1	381017.09	0.67	456299.72	83.5	60 - 125		378255.13	381482.97	383313.22
45 Sc # 3	651311.19	1.15	765061.25	85.1	60 - 125		643837.94	651307.19	658788.56
74 Ge # 1	135126.94	0.51	153441.28	88.1	60 - 125		134513.30	135000.03	135867.48
74 Ge # 2	40421.31	0.82	47804.94	84.6	60 - 125		40103.93	40393.45	40766.54
74 Ge # 3	198906.14	0.80	224564.78	88.6	60 - 125		199132.73	200374.81	197210.88
89 Y # 3	1177992.60	0.44	1302847.50	90.4	60 - 125		1174429.90	1183879.80	1175668.10
115 In # 3	1234814.00	0.83	1366177.60	90.4	60 - 125		1235245.60	1224320.60	1244876.00
159 Tb # 3	1828701.00	0.59	2052817.90	89.1	60 - 125		1833420.60	1836348.90	1816333.50
209 Bi # 3	1180850.10	1.26	1405468.50	84.0	60 - 125		1165650.90	1195258.10	1181641.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\175SMPL.D\175SMPL.D#
 Date Acquired: Aug 25 2014 07:33 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3307
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0001154	0.0001154	ug/l	1041.60	100.00		0.00	3.33	0.00
11 B #3	3.161	3.161	ug/l	2.46	1800.00		6067.78	5917.73	6057.76
23 Na #1	254.8	254.8	ug/l	1.39	81000.00		853325.81	868849.75	856180.69
24 Mg #1	243.1	243.1	ug/l	0.37	81000.00		518100.03	519708.78	521249.09
27 Al #1	5.14	5.14	ug/l	0.59	81000.00		14356.29	14392.39	14663.30
39 K #2	91.01	91.01	ug/l	2.19	81000.00		40029.66	39688.93	40357.08
40 Ca #1	616.4	616.4	ug/l	0.67	81000.00		3633365.30	3641086.30	3634525.80
47 Ti #3	0.004982	0.004982	ug/l	399.04	1620.00		110.00	80.00	116.68
51 V #2	0.01745	0.01745	ug/l	38.11	1800.00		232.23	256.67	272.23
52 Cr #2	0.0175	0.0175	ug/l	32.32	1800.00		343.34	336.67	374.45
55 Mn #3	20.51	20.51	ug/l	0.66	1800.00		360707.34	365721.91	364442.44
56 Fe #1	63.48	63.48	ug/l	0.54	81000.00		484627.50	490609.56	493840.41
59 Co #3	0.01139	0.01139	ug/l	8.89	1800.00		200.01	230.01	220.01
60 Ni #2	0.06633	0.06633	ug/l	11.72	1800.00		111.11	127.78	114.45
63 Cu #2	-0.04003	-0.04003	ug/l	6.60	1800.00		267.78	274.45	291.12
66 Zn #3	0.05545	0.05545	ug/l	9.59	1800.00		1586.78	1790.15	1623.45
75 As #2	0.06082	0.06082	ug/l	20.54	100.00		36.67	31.33	30.33
78 Se #1	-0.03752	-0.03752	ug/l	20.23	100.00		11.67	8.00	10.00
88 Sr #3	1.991	1.991	ug/l	0.38	1800.00		46380.57	47570.27	47928.20
95 Mo #3	-0.01023	-0.01023	ug/l	17.02	1800.00		66.67	80.00	73.34
107 Ag #3	-0.004411	-0.004411	ug/l	47.00	100.00		46.67	86.67	83.34
111 Cd #3	-0.0003238	-0.0003238	ug/l	256.55	100.00		6.65	6.65	3.32
118 Sn #3	0.07728	0.07728	ug/l	16.03	1800.00		1180.08	1353.43	1223.41
121 Sb #3	0.006237	0.006237	ug/l	28.09	100.00		106.67	76.67	96.67
137 Ba #3	1.42	1.42	ug/l	1.94	1800.00		5477.71	5427.68	5627.76
202 Hg #3	-0.01492	-0.01492	ug/l	18.59	5.00		70.00	83.00	68.00
205 Tl #3	-0.0005797	-0.0005797	ug/l	218.91	20.00		203.34	140.01	173.34
208 Pb #3	-0.02038	-0.02038	ug/l	8.96	1800.00		710.03	630.03	596.69
232 Th #3	0.02866	0.02866	ug/l	3.11	#VALUE!		1316.77	1376.78	1386.78
238 U #3	0.0005172	0.0005172	ug/l	34.34	#VALUE!		43.33	56.67	46.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	370202.09	0.71	442436.88	83.7	60 - 125		367533.59	370278.06	372794.69
45 Sc #1	395582.63	0.63	456299.72	86.7	60 - 125		393815.16	394495.78	398436.94
45 Sc #3	663554.50	0.37	765061.25	86.7	60 - 125		661349.25	663095.19	666219.06
74 Ba #1	140417.14	0.37	153441.28	91.5	60 - 125		139985.89	140271.50	140994.00
74 Ge #2	41682.27	1.65	47804.94	87.2	60 - 125		40954.72	41774.38	42317.72
74 Ge #3	206099.41	1.13	224564.78	91.8	60 - 125		203576.44	206583.52	208138.28
89 Y #3	1218814.40	1.34	1302847.50	93.6	60 - 125		1200377.10	1224709.80	1231356.00
115 In #3	1293681.40	0.04	1366177.60	94.7	60 - 125		1294051.50	1293954.10	1293038.40
159 Tb #3	1879986.30	0.84	2052817.90	91.6	60 - 125		1866084.50	1876746.40	1897128.10
209 Bi #3	1275895.30	0.58	1405468.50	90.8	60 - 125		1271937.60	1271317.10	1284431.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\176SMPL.D\176SMPL.D#
 Date Acquired: Aug 25 2014 07:40 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-1-aSD
 Misc Info: 200.8TR 1/25
 Vial Number: 3308
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.011	0.0022	ug/l	144.59	100.00		3.33	10.00	0.00
11 B #3	4.5895	0.9179	ug/l	5.60	1800.00		3247.02	3123.66	3217.02
23 Na #1	218.1	43.62	ug/l	0.22	81000.00		218020.59	217552.20	217947.94
24 Mg #1	247.15	49.43	ug/l	0.54	81000.00		106676.78	107246.92	106647.05
27 Al #1	10.005	2.001	ug/l	0.89	81000.00		6511.28	6577.98	6541.31
39 K #2	57.4	11.48	ug/l	5.82	81000.00		15326.63	14972.93	15686.91
40 Ca #1	650	130	ug/l	0.51	81000.00		784343.19	789822.06	789315.31
47 Ti #3	-0.1018	-0.02036	ug/l	25.53	1620.00		73.34	83.34	76.67
51 V #2	-0.01733	-0.003466	ug/l	139.41	1800.00		210.00	187.78	210.00
52 Cr #2	-0.1032	-0.02064	ug/l	6.86	1800.00		233.34	240.00	244.45
55 Mn #3	20.425	4.085	ug/l	0.90	1800.00		73170.70	73023.67	74258.53
56 Fe #1	64.5	12.9	ug/l	1.03	81000.00		102233.52	103905.51	102954.00
59 Co #3	-0.001586	-0.0003172	ug/l	70.11	1800.00		56.67	60.00	63.34
60 Ni #2	0.1909	0.03818	ug/l	9.92	1800.00		82.22	90.00	88.89
63 Cu #2	-0.29175	-0.05835	ug/l	8.56	1800.00		214.45	237.78	215.56
66 Zn #3	0.17835	0.03567	ug/l	97.20	1800.00		680.03	583.36	710.04
75 As #2	0.02341	0.004682	ug/l	58.76	100.00		14.00	15.00	16.00
78 Se #1	-0.24275	-0.04855	ug/l	16.43	100.00		8.00	5.00	8.67
88 Sr #3	1.983	0.3966	ug/l	0.61	1800.00		9396.03	9586.12	9479.48
95 Mo #3	-0.08855	-0.01771	ug/l	7.34	1800.00		40.00	50.00	43.33
107 Ag #3	-0.03233	-0.006466	ug/l	14.22	100.00		40.00	60.00	50.00
111 Cd #3	0.000904	0.0001808	ug/l	813.61	100.00		9.99	6.66	3.32
118 Sn #3	0.30535	0.06107	ug/l	12.84	1800.00		1126.74	1070.07	1190.08
121 Sb #3	0.0045685	0.0009137	ug/l	192.95	100.00		43.33	63.34	33.33
137 Ba #3	1.498	0.2996	ug/l	5.56	1800.00		1246.75	1173.41	1140.07
202 Hg #3	-0.07335	-0.01467	ug/l	28.45	5.00		87.67	67.33	67.33
205 Tl #3	-0.024045	-0.004809	ug/l	5.54	20.00		66.67	56.67	70.00
208 Pb #3	-0.1264	-0.02528	ug/l	2.67	1800.00		450.02	500.02	473.35
232 Th #3	0.0837	0.01674	ug/l	12.52	#VALUE!		930.06	946.72	820.05
238 U #3	-0.0003293	-6.59E-005	ug/l	81.04	#VALUE!		26.67	23.33	26.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	370671.03	0.48	442436.88	83.8	60 - 125		369331.38	369979.06	372702.72
45 Sc #1	397118.25	0.23	456299.72	87.0	60 - 125		397305.53	396134.00	397915.19
45 Sc #3	666243.44	0.78	765061.25	87.1	60 - 125		661958.25	664740.19	672031.88
74 Ge #1	140756.13	0.33	153441.28	91.7	60 - 125		141288.30	140479.80	140500.28
74 Ge #2	41578.35	1.13	47804.94	87.0	60 - 125		41372.34	41245.41	42117.29
74 Ge #3	206034.97	0.70	224564.78	91.7	60 - 125		204361.34	206829.38	206914.19
89 Y #3	1212018.90	1.33	1302847.50	93.0	60 - 125		1193657.10	1223703.50	1218695.90
115 In #3	1287425.90	0.78	1366177.60	94.2	60 - 125		1276706.00	1288925.90	1296645.80
159 Tb #3	1874246.90	1.11	2052817.90	91.3	60 - 125		1853912.50	1873304.80	1895522.90
209 Bi #3	1267383.90	1.84	1405468.50	90.2	60 - 125		1241305.30	1274724.30	1286122.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\177SMPL.D\177SMPL.D#
 Date Acquired: Aug 25 2014 07:48 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-1-aPDS
 Misc Info: 200.8TR 1/5
 Vial Number: 3309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	20.57	20.57	ug/l	0.64	100.00		32871.43	33689.32	33362.14
11 B # 3	43.57	43.57	ug/l	0.60	1800.00		56585.74	57545.12	58331.29
23 Na # 1	2391	2391	ug/l	0.91	81000.00		7479000.00	7465555.00	7396763.00
24 Mg # 1	2382	2382	ug/l	0.85	81000.00		5156162.50	5177217.50	5100640.00
27 Al # 1	225	225	ug/l	0.42	81000.00		577510.31	579406.25	577483.56
39 K # 2	2056	2056	ug/l	0.41	81000.00		643817.63	655421.69	660337.00
40 Ca # 1	2775	2775	ug/l	0.72	81000.00		16401415.00	16450923.00	16602420.00
47 Ti # 3	21.39	21.39	ug/l	1.13	1620.00		21389.35	21456.06	21255.86
51 V # 2	20.11	20.11	ug/l	0.91	1800.00		48079.14	49492.95	49537.43
52 Cr # 2	20.13	20.13	ug/l	0.12	1800.00		58915.64	59522.93	60080.27
55 Mn # 3	231.4	231.4	ug/l	0.79	1800.00		4067232.80	4129349.00	4118037.80
56 Fe # 1	2350	2350	ug/l	0.69	81000.00		17973970.00	18286258.00	18336094.00
59 Co # 3	20.48	20.48	ug/l	0.51	1800.00		273059.31	275783.38	276575.91
60 Ni # 2	21.47	21.47	ug/l	0.38	1800.00		23334.75	23436.00	23607.31
63 Cu # 2	20.68	20.68	ug/l	0.63	1800.00		62066.95	61983.24	62745.66
66 Zn # 3	22.01	22.01	ug/l	1.67	1800.00		42733.40	44156.76	43742.50
75 As # 2	20.84	20.84	ug/l	0.51	100.00		6622.88	6669.89	6675.89
78 Se # 1	21.87	21.87	ug/l	0.64	100.00		5327.79	5400.14	5404.48
88 Sr # 3	21.52	21.52	ug/l	0.06	1800.00		507054.25	513097.28	514797.75
95 Mo # 3	20.51	20.51	ug/l	1.64	1800.00		76788.88	79152.54	77689.70
107 Ag # 3	20.06	20.06	ug/l	0.71	100.00		211201.67	213961.80	213356.14
111 Cd # 3	20.7	20.7	ug/l	0.97	100.00		47545.23	46819.31	47925.85
118 Sn # 3	20.78	20.78	ug/l	0.31	1800.00		149243.16	150412.38	151165.78
121 Sb # 3	20.26	20.26	ug/l	0.07	100.00		173826.80	174625.36	176322.55
137 Ba # 3	21.96	21.96	ug/l	0.57	1800.00		82999.31	83421.11	85122.68
202 Hg # 3	0.9904	0.9904	ug/l	1.49	5.00		3147.32	3147.65	3115.65
205 Tl # 3	4.031	4.031	ug/l	0.71	20.00		103680.38	104479.15	104195.36
208 Pb # 3	20.34	20.34	ug/l	0.61	1800.00		711730.94	717904.25	716875.69
232 Th # 3	21	21	ug/l	0.37	#VALUE!		797105.19	799435.38	800126.13
238 U # 3	20.05	20.05	ug/l	0.60	#VALUE!		790272.69	794421.31	798310.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	374226.91	1.14	442436.88	84.6	60 - 125		369345.19	376092.03	377243.50
45 Sc # 1	400304.66	0.57	456299.72	87.7	60 - 125		397971.16	402518.53	400424.28
45 Sc # 3	675815.13	0.89	765061.25	88.3	60 - 125		668903.63	678712.63	679829.25
74 Ge # 1	141259.11	0.33	153441.28	92.1	60 - 125		140886.20	141774.31	141116.81
74 Ge # 2	41929.52	0.91	47804.94	87.7	60 - 125		41522.72	41985.93	42279.91
74 Ge # 3	206947.28	0.44	224564.78	92.2	60 - 125		206452.13	206397.81	207991.92
89 Y # 3	1223592.30	0.74	1302847.50	93.9	60 - 125		1213262.60	1227273.80	1230240.60
115 In # 3	1280571.30	0.77	1366177.60	93.7	60 - 125		1272668.10	1277435.40	1291610.10
159 Tb # 3	1904548.60	0.91	2052817.90	92.8	60 - 125		1887111.30	1904938.50	1921596.40
209 Bi # 3	1272382.90	0.40	1405468.50	90.5	60 - 125		1268796.30	1278249.40	1270103.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\178SMPL.D\178SMPL.D#
 Date Acquired: Aug 25 2014 07:55 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-1-b ms
 Misc Info: 200.8TR 1/5
 Vial Number: 3310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements									
Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	10.29	10.29	ug/l	2.47	100.00		17117.88	16664.15	17551.61
11 B #3	42.92	42.92	ug/l	1.87	1800.00		57358.26	57769.28	59520.73
23 Na #1	1307	1307	ug/l	1.16	81000.00		4130220.80	4152933.30	4187247.00
24 Mg #1	1305	1305	ug/l	1.32	81000.00		2820350.30	2859442.30	2870157.50
27 Al #1	1059	1059	ug/l	0.71	81000.00		2746662.50	2739307.50	2756181.50
39 K #2	1061	1061	ug/l	1.90	81000.00		340492.28	344033.47	356244.81
40 Ca #1	1692	1692	ug/l	0.97	81000.00		10145208.00	10144077.00	10238348.00
47 Ti #3	20.63	20.63	ug/l	1.18	1620.00		20371.53	21055.59	21062.29
51 V #2	19.82	19.82	ug/l	0.90	1800.00		48539.31	48815.51	49253.27
52 Cr #2	20.22	20.22	ug/l	1.02	1800.00		59854.08	59884.11	61600.74
55 Mn #3	126.2	126.2	ug/l	0.27	1800.00		2257044.30	2273953.50	2296322.00
56 Fe #1	1185	1185	ug/l	1.02	81000.00		9300487.00	9215255.00	9344481.00
59 Co #3	10.41	10.41	ug/l	0.52	1800.00		140394.80	142077.97	143972.72
60 Ni #2	20.93	20.93	ug/l	1.40	1800.00		23291.36	23122.24	22990.98
63 Cu #2	20.27	20.27	ug/l	1.32	1800.00		61014.52	61889.68	62307.77
66 Zn #3	20.96	20.96	ug/l	0.77	1800.00		42219.03	41991.83	42282.47
75 As #2	20.91	20.91	ug/l	0.64	100.00		6717.25	6723.25	6820.62
78 Se #1	21.35	21.35	ug/l	1.88	100.00		5360.80	5400.48	5207.76
88 Sr #3	21.18	21.18	ug/l	0.28	1800.00		507557.81	514048.69	517259.22
95 Mo #3	20.14	20.14	ug/l	1.42	1800.00		77991.06	77578.98	78462.95
107 Ag #3	10.19	10.19	ug/l	0.76	100.00		109450.02	110469.01	111240.53
111 Cd #3	10.25	10.25	ug/l	1.79	100.00		23669.48	24393.78	23859.53
118 Sn #3	41.69	41.69	ug/l	1.38	1800.00		303506.16	310606.50	306580.91
121 Sb #3	10.21	10.21	ug/l	1.61	100.00		90124.02	89480.79	90268.52
137 Ba #3	21.15	21.15	ug/l	0.93	1800.00		81706.37	82698.06	82771.42
202 Hg #3	0.9586	0.9586	ug/l	1.50	5.00		3066.64	3088.32	3095.65
205 Tl #3	7.914	7.914	ug/l	0.79	20.00		204794.77	206588.06	210110.88
208 Pb #3	10.08	10.08	ug/l	1.45	1800.00		359212.69	360318.31	361416.59
232 Th #3	10.14	10.14	ug/l	0.74	#VALUE!		386308.28	386705.47	390162.47
238 U #3	10.11	10.11	ug/l	0.94	#VALUE!		401831.66	400626.63	405345.19

ISTD Elements									
Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	384504.78	0.17	442436.88	86.9	60 - 125		384039.94	384241.91	385232.50
45 Sc #1	404799.59	0.44	456299.72	88.7	60 - 125		406302.41	405286.44	402809.94
45 Sc #3	682776.69	1.18	765061.25	89.2	60 - 125		675243.69	681837.81	691248.50
74 Ge #1	143215.25	0.36	153441.28	93.3	60 - 125		143811.08	142863.45	142971.23
74 Ge #2	42409.89	1.03	47804.94	88.7	60 - 125		42453.70	41952.51	42823.46
74 Ge #3	210289.58	0.90	224564.78	93.6	60 - 125		208950.08	209468.80	212449.86
89 Y #3	1245937.60	0.75	1302847.50	95.6	60 - 125		1235246.30	1250128.10	1252438.40
115 In #3	1306672.10	1.57	1366177.60	95.6	60 - 125		1285212.00	1308815.50	1325988.80
159 Tb #3	1931993.30	1.69	2052817.90	94.1	60 - 125		1917498.90	1909138.80	1969342.30
209 Bi #3	1278486.90	0.94	1405468.50	91.0	60 - 125		1264592.30	1284714.10	1286154.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\179SMPL.D\179SMPL.D#
 Date Acquired: Aug 25 2014 08:02 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-1-c msd
 Misc Info: 200.8TR 1/5
 Vial Number: 3311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.06	10.06	ug/l	2.42	100.00		16834.30	17141.18	16750.89
11 B # 3	42.41	42.41	ug/l	0.52	1800.00		57799.49	57712.56	59019.61
23 Na # 1	1276	1276	ug/l	0.93	81000.00		4084717.50	4088179.50	4028459.00
24 Mg # 1	1283	1283	ug/l	0.40	81000.00		2802133.30	2813806.50	2809388.30
27 Al # 1	1053	1053	ug/l	1.07	81000.00		2734288.50	2764023.80	2714920.50
39 K # 2	1052	1052	ug/l	0.67	81000.00		340273.84	343085.69	348263.66
40 Ca # 1	1658	1658	ug/l	0.15	81000.00		10008476.00	9955119.00	10013816.00
47 Ti # 3	20.57	20.57	ug/l	1.40	1620.00		20718.51	20495.02	21479.38
51 V # 2	19.6	19.6	ug/l	0.66	1800.00		47792.88	48241.81	48876.77
52 Cr # 2	20.03	20.03	ug/l	0.55	1800.00		59721.38	59832.84	60036.93
55 Mn # 3	123.8	123.8	ug/l	0.75	1800.00		2222119.50	2264169.30	2251458.80
56 Fe # 1	1176	1176	ug/l	0.17	81000.00		9229324.00	9207477.00	9251940.00
59 Co # 3	10.22	10.22	ug/l	0.74	1800.00		138873.05	140757.55	141552.92
60 Ni # 2	20.79	20.79	ug/l	1.35	1800.00		22728.45	23191.24	22968.74
63 Cu # 2	20.02	20.02	ug/l	0.83	1800.00		60450.53	61180.73	61199.52
66 Zn # 3	21.1	21.1	ug/l	0.56	1800.00		42452.87	42623.25	43054.37
75 As # 2	20.72	20.72	ug/l	1.15	100.00		6600.54	6734.25	6732.58
78 Se # 1	21.14	21.14	ug/l	1.53	100.00		5190.08	5313.79	5347.80
88 Sr # 3	20.99	20.99	ug/l	0.68	1800.00		502513.78	505281.66	509898.06
95 Mo # 3	19.66	19.66	ug/l	0.40	1800.00		76313.88	76668.26	76992.97
107 Ag # 3	9.97	9.97	ug/l	0.83	100.00		108553.76	108880.12	108406.69
111 Cd # 3	10.08	10.08	ug/l	0.89	100.00		23426.14	23810.08	23873.26
118 Sn # 3	41	41	ug/l	0.83	1800.00		301527.25	305188.19	304239.13
121 Sb # 3	10.1	10.1	ug/l	1.31	100.00		89651.64	89993.84	88803.93
137 Ba # 3	20.95	20.95	ug/l	1.15	1800.00		81863.66	82677.97	81749.20
202 Hg # 3	0.9413	0.9413	ug/l	1.92	5.00		2960.62	3019.63	3060.30
205 Tl # 3	7.881	7.881	ug/l	0.63	20.00		206312.91	205333.75	203834.00
208 Pb # 3	10.05	10.05	ug/l	1.22	1800.00		353860.63	359902.97	358780.78
232 Th # 3	10.03	10.03	ug/l	0.49	#VALUE!		384318.94	385328.47	386720.78
238 U # 3	10.01	10.01	ug/l	0.32	#VALUE!		397708.38	399792.97	403870.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	388706.16	1.59	442436.88	87.9	60 - 125		383972.72	386433.69	395712.06
45 Sc # 1	405695.34	0.20	456299.72	88.9	60 - 125		406322.06	404788.63	405975.34
45 Sc # 3	687041.63	1.09	765061.25	89.8	60 - 125		683298.00	682190.81	695636.06
74 Ge # 1	143603.66	0.26	153441.28	93.6	60 - 125		143410.17	144035.66	143365.16
74 Ge # 2	42382.04	0.76	47804.94	88.7	60 - 125		42252.09	42145.16	42748.85
74 Ge # 3	211622.92	0.24	224564.78	94.2	60 - 125		211034.08	211849.97	211984.70
89 Y # 3	1240303.10	0.48	1302847.50	95.2	60 - 125		1234153.30	1245949.00	1240807.10
115 In # 3	1314453.60	0.64	1366177.60	96.2	60 - 125		1310698.50	1308610.90	1324051.40
159 Tb # 3	1921132.50	0.35	2052817.90	93.6	60 - 125		1927065.00	1913786.40	1922545.80
209 Bi # 3	1285067.60	0.77	1405468.50	91.4	60 - 125		1274075.10	1287703.10	1293424.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\180SMPL.D\180SMPL.D#
 Date Acquired: Aug 25 2014 08:10 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48908-b-2-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007429	0.0007429	ug/l	307.98	100.00		0.00	0.00	6.67
11 B #3	3.292	3.292	ug/l	2.83	1800.00		6521.22	6434.57	6377.88
23 Na #1	254.4	254.4	ug/l	0.68	81000.00		881105.50	877092.81	873646.13
24 Mg #1	248.2	248.2	ug/l	0.53	81000.00		544378.50	541662.13	540993.56
27 Al #1	5.465	5.465	ug/l	2.07	81000.00		15930.36	15473.29	15486.68
39 K #2	89.93	89.93	ug/l	1.38	81000.00		40360.29	40510.71	40577.45
40 Ca #1	686.4	686.4	ug/l	0.39	81000.00		4123425.80	4126945.80	4158300.30
47 Ti #3	-0.0154	-0.0154	ug/l	192.73	1620.00		53.33	86.67	113.34
51 V #2	0.007958	0.007958	ug/l	27.73	1800.00		230.00	238.89	236.67
52 Cr #2	0.008891	0.008891	ug/l	71.54	1800.00		318.90	351.12	327.78
55 Mn #3	28.04	28.04	ug/l	0.68	1800.00		497012.13	504529.94	511488.38
56 Fe #1	115.2	115.2	ug/l	0.17	81000.00		904319.13	905681.44	904413.13
59 Co #3	0.02373	0.02373	ug/l	20.12	1800.00		313.34	443.35	406.68
60 Ni #2	0.09743	0.09743	ug/l	10.74	1800.00		165.56	153.34	144.45
63 Cu #2	-0.04251	-0.04251	ug/l	18.70	1800.00		297.78	275.56	253.34
66 Zn #3	0.5094	0.5094	ug/l	2.42	1800.00		1570.12	1633.45	1606.78
75 As #2	0.07076	0.07076	ug/l	11.72	100.00		35.67	39.33	35.00
78 Se #1	-0.02987	-0.02987	ug/l	16.04	100.00		12.33	13.00	10.67
88 Sr #3	2.163	2.163	ug/l	0.39	1800.00		52173.26	52761.46	52363.73
95 Mo #3	0.01004	0.01004	ug/l	48.11	1800.00		163.34	130.01	163.34
107 Ag #3	-0.0005507	-0.0005507	ug/l	96.55	100.00		113.34	120.00	110.00
111 Cd #3	0.00251	0.00251	ug/l	66.14	100.00		16.63	9.97	9.96
118 Sn #3	0.1194	0.1194	ug/l	6.62	1800.00		1506.77	1616.79	1590.12
121 Sb #3	0.01133	0.01133	ug/l	9.34	100.00		136.67	130.00	150.00
137 Ba #3	4.632	4.632	ug/l	1.50	1800.00		17699.70	18156.79	18260.29
202 Hg #3	-0.007325	-0.007325	ug/l	29.49	5.00		90.67	99.67	105.00
205 Tl #3	0.01082	0.01082	ug/l	19.34	20.00		530.03	440.02	443.35
208 Pb #3	0.009523	0.009523	ug/l	494.80	1800.00		706.70	3647.73	800.03
232 Th #3	0.1419	0.1419	ug/l	7.60	#VALUE!		5954.68	5994.65	5381.12
238 U #3	0.0027	0.0027	ug/l	26.44	#VALUE!		156.67	150.01	106.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	386127.34	0.78	442436.88	87.3	60 - 125		382915.63	386628.53	388837.88
45 Sc #1	404288.22	0.20	456299.72	88.6	60 - 125		403335.84	404761.19	404767.59
45 Sc #3	679981.56	0.56	765061.25	88.9	60 - 125		675574.88	682122.31	682247.56
74 Ge #1	143380.09	0.24	153441.28	93.4	60 - 125		143771.70	143250.88	143117.72
74 Ge #2	42509.74	1.07	47804.94	88.9	60 - 125		42415.83	42110.67	43002.74
74 Ge #3	209298.31	0.78	224564.78	93.2	60 - 125		207513.72	209668.67	210712.58
89 Y #3	1243890.50	0.84	1302847.50	95.5	60 - 125		1232367.60	1252950.00	1246354.00
115 In #3	1303874.60	0.63	1366177.60	95.4	60 - 125		1301258.60	1297340.80	1313024.40
159 Tb #3	1916812.50	0.66	2052817.90	93.4	60 - 125		1902285.00	1922069.50	1926082.90
209 Bi #3	1298860.30	1.40	1405468.50	92.4	60 - 125		1285140.00	1291970.60	1319470.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\181SMPL.D\181SMPL.D#
 Date Acquired: Aug 25 2014 08:17 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62367-g-3-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B #3	46.43	46.43	ug/l	0.99	1800.00		61881.42	63315.66	63516.86
23 Na #1	53880	53880	ug/l	0.56	81000.00		171633230.00	172006350.00	170829680.00
24 Mg #1	2603	2603	ug/l	0.96	81000.00		5842882.50	5814677.00	5770305.50
27 Al #1	3.817	3.817	ug/l	1.10	81000.00		11683.80	11657.16	11537.03
39 K #2	2662	2662	ug/l	0.82	81000.00		840033.75	848423.44	873054.19
40 Ca #1	16600	16600	ug/l	0.57	81000.00		101876170.00	101478760.00	102068630.00
47 Ti #3	0.3253	0.3253	ug/l	26.54	1620.00		513.38	456.69	343.35
51 V #2	0.4513	0.4513	ug/l	3.25	1800.00		1283.39	1370.06	1325.62
52 Cr #2	0.08304	0.08304	ug/l	14.40	1800.00		528.90	595.57	536.68
55 Mn #3	2.269	2.269	ug/l	0.60	1800.00		42636.28	42365.36	42819.75
56 Fe #1	9.542	9.542	ug/l	0.16	81000.00		80159.23	80705.20	80447.40
59 Co #3	0.05064	0.05064	ug/l	10.15	1800.00		726.70	843.38	716.70
60 Ni #2	0.8921	0.8921	ug/l	3.57	1800.00		997.82	1013.37	1088.93
63 Cu #2	0.3867	0.3867	ug/l	3.66	1800.00		1504.52	1612.31	1615.64
66 Zn #3	3.867	3.867	ug/l	1.70	1800.00		8355.48	8418.83	8222.06
75 As #2	0.3537	0.3537	ug/l	5.83	100.00		126.67	121.33	136.33
78 Se #1	3.276	3.276	ug/l	1.57	100.00		841.69	830.02	842.36
88 Sr #3	54.79	54.79	ug/l	0.39	1800.00		1311138.90	1333915.80	1336702.50
95 Mo #3	0.6666	0.6666	ug/l	3.27	1800.00		2673.61	2566.93	2663.61
107 Ag #3	-0.003508	-0.003508	ug/l	65.22	100.00		56.67	106.67	80.00
111 Cd #3	0.01549	0.01549	ug/l	6.32	100.00		42.75	39.44	42.75
118 Sn #3	0.1093	0.1093	ug/l	5.13	1800.00		1406.76	1516.78	1480.11
121 Sb #3	0.3136	0.3136	ug/l	2.91	100.00		2630.28	2763.64	2830.33
137 Ba #3	2.235	2.235	ug/l	5.13	1800.00		8212.19	8358.99	9089.36
202 Hg #3	-0.01359	-0.01359	ug/l	24.53	5.00		85.67	66.67	84.00
205 Tl #3	0.006478	0.006478	ug/l	13.76	20.00		346.68	380.02	343.35
208 Pb #3	-0.001377	-0.001377	ug/l	145.82	1800.00		1390.07	1303.40	1273.39
232 Th #3	0.07039	0.07039	ug/l	1.49	#VALUE!		2837.01	2830.34	2840.36
238 U #3	0.03444	0.03444	ug/l	4.09	#VALUE!		1266.76	1350.11	1410.11

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	385129.28	0.63	442436.88	87.0	60 - 125		382970.88	384656.09	387760.94
45 Sc #1	413601.00	0.40	456299.72	90.6	60 - 125		411703.59	414733.66	414365.72
45 Sc #3	700723.81	0.65	765061.25	91.6	60 - 125		698076.69	698134.19	705960.69
74 Ge #1	144065.08	0.71	153441.28	93.9	60 - 125		143702.30	145224.16	143268.77
74 Ge #2	42504.89	1.50	47804.94	88.9	60 - 125		41837.77	42570.61	43106.27
74 Ge #3	211886.13	0.50	224564.78	94.4	60 - 125		210803.36	211916.53	212938.52
89 Y #3	1246828.40	0.75	1302847.50	95.7	60 - 125		1236170.50	1253705.90	1250608.90
115 In #3	1278637.10	1.09	1366177.60	93.6	60 - 125		1263032.50	1289663.50	1283215.40
159 Tb #3	1906096.40	1.10	2052817.90	92.9	60 - 125		1895837.60	1892238.50	1930213.30
209 Bi #3	1226088.10	1.37	1405468.50	87.2	60 - 125		1208172.80	1228533.00	1241558.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\182_CCV.D\182_CCV.D#
 Date Acquired: Aug 25 2014 08:24 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.55 ug/l	0.53	50.00	89.5 - 110		81907.36	82315.59	82686.89
11 B	100.9 ug/l	0.49	100.00	89.5 - 110		130707.63	131139.88	131678.88
23 Na	5119 ug/l	0.93	5000.00	89.5 - 110		16417905.00	16286453.00	16311196.00
24 Mg	5153 ug/l	0.83	5000.00	89.5 - 110		11512085.00	11461347.00	11452049.00
27 Al	523.1 ug/l	1.09	500.00	89.5 - 110		1390951.60	1377055.40	1383628.50
39 K	4753 ug/l	0.62	5000.00	89.5 - 110		1502585.60	1530172.30	1538999.90
40 Ca	5230 ug/l	0.53	5000.00	89.5 - 110		32062540.00	32138652.00	31848940.00
47 Ti	50.76 ug/l	0.77	50.00	89.5 - 110		51835.31	51474.38	52353.61
51 V	49.07 ug/l	0.13	50.00	89.5 - 110		120721.40	121521.81	122805.82
52 Cr	49.14 ug/l	0.82	50.00	89.5 - 110		147801.28	146844.88	148357.73
55 Mn	500.6 ug/l	1.14	500.00	89.5 - 110		9012572.00	8986320.00	9189771.00
56 Fe	5446 ug/l	0.64	5000.00	89.5 - 110		43461492.00	43708568.00	43291948.00
59 Co	48.66 ug/l	0.32	50.00	89.5 - 110		664273.25	666418.25	670522.50
60 Ni	50.53 ug/l	0.40	50.00	89.5 - 110		55883.70	56262.68	56583.65
63 Cu	49.7 ug/l	0.24	50.00	89.5 - 110		151115.80	151506.72	153290.17
66 Zn	49.12 ug/l	0.72	50.00	89.5 - 110		97886.43	98037.58	99397.25
75 As	50.32 ug/l	0.27	50.00	89.5 - 110		16220.85	16377.32	16504.11
78 Se	51.49 ug/l	0.43	50.00	89.5 - 110		13006.98	12976.62	13031.66
88 Sr	48.77 ug/l	1.15	50.00	89.5 - 110		1171964.00	1168939.60	1177646.00
95 Mo	49.54 ug/l	0.67	50.00	89.5 - 110		190545.17	188631.97	190312.22
107 Ag	47.73 ug/l	1.23	50.00	89.5 - 110		511135.09	506527.81	515716.56
111 Cd	49.47 ug/l	0.95	50.00	89.5 - 110		115145.79	113237.45	115014.62
118 Sn	50.27 ug/l	0.43	50.00	89.5 - 110		366851.28	366697.03	364751.09
121 Sb	49.39 ug/l	0.98	50.00	89.5 - 110		428675.47	432712.72	430315.97
137 Ba	48.95 ug/l	1.11	50.00	89.5 - 110		187659.73	188976.97	189445.55
202 Hg	2.03 ug/l	0.74	2.50	89.5 - 110	Fail	6291.93	6217.23	6248.24
205 Tl	9.735 ug/l	0.85	10.00	89.5 - 110		249588.25	248868.06	248807.58
208 Pb	49.31 ug/l	1.06	50.00	89.5 - 110		1724871.50	1718990.00	1712086.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	376397.81	0.62	442436.88	85.1	60 - 125		376131.59	374220.81	378840.97
45 Sc	412772.34	0.97	456299.72	90.5	60 - 125		415015.66	415139.50	408161.97
45 Sc	693420.06	0.45	765061.25	90.6	60 - 125		696457.38	690268.19	693534.50
74 Ge	145412.17	0.43	153441.28	94.8	60 - 125		146123.39	144951.75	145161.34
74 Ge	42749.57	0.97	47804.94	89.4	60 - 125		42393.58	42649.70	43205.44
74 Ge	211220.47	0.32	224564.78	94.1	60 - 125		210446.16	211625.39	211589.84
89 Y	1237747.30	0.80	1302847.50	95.0	60 - 125		1244550.00	1242242.80	1226449.10
115 In	1293246.30	0.62	1366177.60	94.7	60 - 125		1302135.90	1291011.90	1286591.10
159 Tb	1888842.50	0.84	2052817.90	92.0	60 - 125		1891267.50	1871834.80	1903424.80
209 Bi	1258751.10	0.66	1405468.50	89.6	60 - 125		1255653.40	1252471.00	1268129.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\183_CCB.D\183_CCB.D#
 Date Acquired: Aug 25 2014 08:32 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003445	0.003445	ug/l	58.84	#VALUE!		10.00	3.33	6.67
11 B # 3	1.684	1.684	ug/l	6.77	#VALUE!		4450.63	4230.55	4230.56
23 Na # 1	-7.5	-7.5	ug/l	1.63	#VALUE!		64006.60	63180.38	62946.42
24 Mg # 1	0.2741	0.2741	ug/l	34.34	#VALUE!		1796.81	1380.08	1593.44
27 Al # 1	0.04411	0.04411	ug/l	107.19	#VALUE!		1743.46	1606.79	1483.43
39 K # 2	-7.775	-7.775	ug/l	26.50	#VALUE!		9596.04	9325.89	9719.45
40 Ca # 1	0.4032	0.4032	ug/l	15.25	#VALUE!		26452.43	25858.23	25531.15
47 Ti # 3	-0.0528	-0.0528	ug/l	34.49	#VALUE!		66.67	33.33	40.00
51 V # 2	-0.004372	-0.004372	ug/l	144.60	#VALUE!		208.89	196.67	206.67
52 Cr # 2	-0.0228	-0.0228	ug/l	6.72	#VALUE!		240.00	246.67	226.67
55 Mn # 3	0.02045	0.02045	ug/l	16.70	#VALUE!		1650.12	1770.14	1770.15
56 Fe # 1	0.959	0.959	ug/l	5.26	#VALUE!		12090.89	11323.78	11390.46
59 Co # 3	0.002326	0.002326	ug/l	87.40	#VALUE!		123.34	93.34	70.00
60 Ni # 2	-0.006709	-0.006709	ug/l	69.97	#VALUE!		33.33	42.22	42.22
63 Cu # 2	-0.06519	-0.06519	ug/l	9.90	#VALUE!		184.45	237.78	198.89
66 Zn # 3	-0.1143	-0.1143	ug/l	23.05	#VALUE!		306.68	393.35	403.35
75 As # 2	0.0003665	0.0003665	ug/l	3154.20	#VALUE!		18.00	12.33	11.33
78 Se # 1	-0.02739	-0.02739	ug/l	53.16	#VALUE!		9.67	11.67	16.67
88 Sr # 3	0.00276	0.00276	ug/l	6.05	#VALUE!		213.34	213.34	220.01
95 Mo # 3	0.02762	0.02762	ug/l	14.47	#VALUE!		223.34	233.34	203.34
107 Ag # 3	0.003361	0.003361	ug/l	42.16	#VALUE!		160.00	140.00	170.01
111 Cd # 3	0.004413	0.004413	ug/l	56.61	#VALUE!		23.29	13.28	13.29
118 Sn # 3	0.1039	0.1039	ug/l	14.10	#VALUE!		1463.44	1560.12	1346.76
121 Sb # 3	0.01943	0.01943	ug/l	9.95	#VALUE!		200.01	200.01	230.01
137 Ba # 3	0.003434	0.003434	ug/l	79.76	#VALUE!		46.67	43.33	63.34
202 Hg # 3	0.000692	0.000692	ug/l	368.35	#VALUE!		128.67	123.67	115.00
205 Tl # 3	-0.002529	-0.002529	ug/l	23.36	#VALUE!		120.00	140.00	113.34
208 Pb # 3	-0.02217	-0.02217	ug/l	5.33	#VALUE!		593.36	626.69	556.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	383409.34	0.55	442436.88	86.7	60 - 125		381275.91	383426.09	385526.03
45 Sc # 1	407903.53	0.46	456299.72	89.4	60 - 125		409212.75	408725.25	405772.56
45 Sc # 3	677800.31	1.01	765061.25	88.6	60 - 125		670214.69	679570.50	683615.69
74 Ge # 1	143999.98	0.23	153441.28	93.8	60 - 125		144309.08	144045.03	143645.86
74 Ge # 2	42448.73	4.81	47804.94	88.8	60 - 125		41929.13	44698.29	40718.79
74 Ge # 3	206731.81	0.53	224564.78	92.1	60 - 125		205490.33	207115.80	207589.31
89 Y # 3	1222138.60	1.26	1302847.50	93.8	60 - 125		1204815.10	1234162.80	1227438.10
115 In # 3	1303660.30	0.26	1366177.60	95.4	60 - 125		1299715.00	1305282.10	1305984.00
159 Tb # 3	1908855.10	1.11	2052817.90	93.0	60 - 125		1909105.80	1887514.40	1929945.40
209 Bi # 3	1267733.80	0.96	1405468.50	90.2	60 - 125		1262076.00	1259480.90	1281644.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\184SMPL.D\184SMPL.D#
 Date Acquired: Aug 25 2014 08:39 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007532	0.0007532	ug/l	306.16	100.00		0.00	6.67	0.00
11 B # 3	2.945	2.945	ug/l	1.41	1800.00		6017.74	5984.39	5941.08
23 Na # 1	141.1	141.1	ug/l	0.36	81000.00		529380.13	533467.69	528897.94
24 Mg # 1	217.2	217.2	ug/l	0.70	81000.00		474586.97	481853.53	483345.09
27 Al # 1	1.416	1.416	ug/l	7.23	81000.00		5180.91	4964.13	5464.27
39 K # 2	6.615	6.615	ug/l	6.37	81000.00		13938.83	14112.30	14249.05
40 Ca # 1	594.9	594.9	ug/l	0.59	81000.00		3621495.80	3625588.30	3633081.50
47 Ti # 3	-0.03103	-0.03103	ug/l	10.28	1620.00		66.68	73.34	66.67
51 V # 2	0.008433	0.008433	ug/l	75.87	1800.00		215.56	243.34	248.89
52 Cr # 2	-0.01494	-0.01494	ug/l	21.36	1800.00		248.89	258.89	275.56
55 Mn # 3	4.342	4.342	ug/l	0.99	1800.00		77916.49	80226.46	79626.88
56 Fe # 1	67.66	67.66	ug/l	0.78	81000.00		534417.38	539151.44	543243.63
59 Co # 3	0.001412	0.001412	ug/l	22.83	1800.00		80.00	83.34	90.00
60 Ni # 2	0.0342	0.0342	ug/l	15.82	1800.00		77.78	83.33	92.22
63 Cu # 2	-0.04737	-0.04737	ug/l	1.61	1800.00		255.56	257.78	267.78
66 Zn # 3	1.364	1.364	ug/l	3.71	1800.00		3193.71	3247.05	3433.75
75 As # 2	0.04963	0.04963	ug/l	13.69	100.00		28.00	32.00	29.33
78 Se # 1	-0.03672	-0.03672	ug/l	25.55	100.00		8.00	12.67	10.33
88 Sr # 3	1.189	1.189	ug/l	0.91	1800.00		28065.93	28606.71	28947.36
95 Mo # 3	-0.001805	-0.001805	ug/l	296.23	1800.00		96.67	130.00	90.00
107 Ag # 3	0.002146	0.002146	ug/l	67.34	100.00		133.34	133.34	160.01
111 Cd # 3	0.000634	0.000634	ug/l	125.55	100.00		6.65	9.97	6.65
118 Sn # 3	0.07896	0.07896	ug/l	6.17	1800.00		1286.76	1243.41	1256.75
121 Sb # 3	0.008661	0.008661	ug/l	45.95	100.00		106.67	153.34	83.34
137 Ba # 3	0.7157	0.7157	ug/l	2.47	1800.00		2756.97	2756.99	2863.67
202 Hg # 3	-0.01066	-0.01066	ug/l	43.22	5.00		86.33	101.34	74.00
205 Tl # 3	-0.003625	-0.003625	ug/l	27.22	20.00		96.67	120.00	70.00
208 Pb # 3	-0.02319	-0.02319	ug/l	4.44	1800.00		510.02	566.69	583.36
232 Th # 3	0.03221	0.03221	ug/l	4.75	#VALUE!		1480.12	1563.47	1433.45
238 U # 3	0.001136	0.001136	ug/l	31.85	#VALUE!		56.67	80.00	83.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	385593.63	0.27	442436.88	87.2	60 - 125		384438.16	385829.41	386513.31
45 Sc # 1	408707.84	0.60	456299.72	89.6	60 - 125		406423.81	411303.88	408395.78
45 Sc # 3	681666.94	1.07	765061.25	89.1	60 - 125		674532.81	689065.13	681402.88
74 Ge # 1	143935.45	0.45	153441.28	93.8	60 - 125		144488.55	144091.03	143226.77
74 Ge # 2	42413.99	1.66	47804.94	88.7	60 - 125		41992.62	42021.59	43227.76
74 Ge # 3	209284.72	0.88	224564.78	93.2	60 - 125		207319.34	209541.58	210993.25
89 Y # 3	1228821.40	0.81	1302847.50	94.3	60 - 125		1217320.40	1235315.00	1233828.50
115 In # 3	1291684.00	1.06	1366177.60	94.5	60 - 125		1278067.10	1305350.40	1291634.60
159 Tb # 3	1897041.30	0.53	2052817.90	92.4	60 - 125		1888819.10	1893928.30	1908376.40
209 Bi # 3	1273083.60	0.59	1405468.50	90.6	60 - 125		1267527.80	1281697.90	1270025.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\185SMPL.D\185SMPL.D#
 Date Acquired: Aug 25 2014 08:47 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-2-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003442	0.003442	ug/l	57.67	100.00		3.33	6.67	10.00
11 B # 3	0.843	0.843	ug/l	10.30	1800.00		3076.99	3177.01	3347.04
23 Na # 1	242.8	242.8	ug/l	0.12	81000.00		839855.19	843190.06	844486.75
24 Mg # 1	5.022	5.022	ug/l	2.67	81000.00		11583.74	12134.14	12134.11
27 Al # 1	14.02	14.02	ug/l	0.42	81000.00		37911.22	37781.11	37824.59
39 K # 2	-7.148	-7.148	ug/l	11.63	81000.00		9839.53	9539.35	9452.56
40 Ca # 1	136.8	136.8	ug/l	0.80	81000.00		844781.44	836255.06	851515.50
47 Ti # 3	0.01535	0.01535	ug/l	112.25	1620.00		96.67	113.34	133.34
51 V # 2	0.01283	0.01283	ug/l	45.38	1800.00		227.78	243.34	257.78
52 Cr # 2	-0.01407	-0.01407	ug/l	42.40	1800.00		254.45	245.56	278.89
55 Mn # 3	0.01791	0.01791	ug/l	31.66	1800.00		1613.44	1783.48	1650.12
56 Fe # 1	0.6501	0.6501	ug/l	5.37	81000.00		8802.30	9092.47	9399.28
59 Co # 3	-0.000319	-0.000319	ug/l	417.24	1800.00		50.00	80.00	50.00
60 Ni # 2	0.09955	0.09955	ug/l	17.04	1800.00		173.34	150.00	138.89
63 Cu # 2	0.4083	0.4083	ug/l	1.73	1800.00		1604.53	1602.31	1636.75
66 Zn # 3	1.071	1.071	ug/l	1.31	1800.00		2656.94	2680.27	2686.96
75 As # 2	0.01287	0.01287	ug/l	37.88	100.00		17.33	16.33	19.33
78 Se # 1	-0.04091	-0.04091	ug/l	23.15	100.00		8.00	12.00	7.67
88 Sr # 3	0.1228	0.1228	ug/l	1.52	1800.00		3000.35	3027.01	3120.37
95 Mo # 3	-0.01284	-0.01284	ug/l	11.86	1800.00		66.67	56.67	66.67
107 Ag # 3	-0.001719	-0.001719	ug/l	103.66	100.00		86.67	93.34	123.34
111 Cd # 3	-0.0003251	-0.0003251	ug/l	253.21	100.00		3.32	6.65	6.65
118 Sn # 3	0.07851	0.07851	ug/l	2.91	1800.00		1273.41	1250.09	1260.08
121 Sb # 3	0.01236	0.01236	ug/l	24.85	100.00		176.67	133.34	130.00
137 Ba # 3	0.09751	0.09751	ug/l	9.20	1800.00		440.02	423.35	376.68
202 Hg # 3	-0.0129	-0.0129	ug/l	31.88	5.00		91.34	67.33	82.67
205 Tl # 3	-0.005269	-0.005269	ug/l	11.02	20.00		60.00	63.34	36.67
208 Pb # 3	-0.02026	-0.02026	ug/l	7.04	1800.00		636.69	710.03	620.02
232 Th # 3	0.02027	0.02027	ug/l	9.91	#VALUE!		1003.40	1033.40	1140.08
238 U # 3	0.0007402	0.0007402	ug/l	31.79	#VALUE!		56.67	70.00	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	382423.59	0.73	442436.88	86.4	60 - 125		379954.03	381843.75	385472.97
45 Sc # 1	404952.47	0.28	456299.72	88.7	60 - 125		403929.03	404755.28	406173.09
45 Sc # 3	675275.56	1.12	765061.25	88.3	60 - 125		667009.13	676873.38	681944.19
74 Ge # 1	142706.83	0.72	153441.28	93.0	60 - 125		141747.20	143779.42	142593.86
74 Ge # 2	41776.97	0.65	47804.94	87.4	60 - 125		41484.85	42022.73	41823.35
74 Ge # 3	206473.33	1.26	224564.78	91.9	60 - 125		205228.25	204729.31	209462.42
89 Y # 3	1215121.50	0.76	1302847.50	93.3	60 - 125		1212784.50	1207273.80	1225306.30
115 In # 3	1293710.50	0.48	1366177.60	94.7	60 - 125		1286949.10	1295017.80	1299164.60
159 Tb # 3	1897208.90	1.04	2052817.90	92.4	60 - 125		1878447.00	1895438.80	1917740.80
209 Bi # 3	1299371.50	1.09	1405468.50	92.5	60 - 125		1293361.00	1315482.80	1289270.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\186SMPL.D\186SMPL.D#
 Date Acquired: Aug 25 2014 08:54 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-3-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.002732	0.002732	ug/l	41.80	100.00		3.33	6.67	6.67
11 B # 3	3.291	3.291	ug/l	4.67	1800.00		6234.49	6657.94	6521.24
23 Na # 1	437.2	437.2	ug/l	0.65	81000.00		1456508.30	1452517.60	1471823.90
24 Mg # 1	311.9	311.9	ug/l	0.31	81000.00		686517.94	687523.25	690342.44
27 Al # 1	8.257	8.257	ug/l	1.98	81000.00		23585.06	22680.63	23004.30
39 K # 2	134.6	134.6	ug/l	0.87	81000.00		54308.50	55184.43	54585.90
40 Ca # 1	750	750	ug/l	0.73	81000.00		4534471.00	4555038.00	4599743.50
47 Ti # 3	0.01529	0.01529	ug/l	118.05	1620.00		110.00	100.00	136.69
51 V # 2	0.04344	0.04344	ug/l	9.99	1800.00		335.56	317.78	315.56
52 Cr # 2	0.02569	0.02569	ug/l	30.46	1800.00		405.56	387.79	356.67
55 Mn # 3	20.37	20.37	ug/l	1.08	1800.00		367490.09	366688.16	367331.41
56 Fe # 1	154.9	154.9	ug/l	0.96	81000.00		1221106.50	1220691.30	1242603.40
59 Co # 3	0.01848	0.01848	ug/l	14.34	1800.00		290.01	300.01	360.02
60 Ni # 2	0.08717	0.08717	ug/l	5.74	1800.00		147.78	137.78	144.45
63 Cu # 2	-0.009637	-0.009637	ug/l	107.40	1800.00		410.01	372.23	345.56
66 Zn # 3	0.9265	0.9265	ug/l	2.86	1800.00		2423.56	2383.56	2480.24
75 As # 2	0.09187	0.09187	ug/l	6.09	100.00		43.00	42.33	45.33
78 Se # 1	-0.03815	-0.03815	ug/l	14.98	100.00		11.67	9.00	9.33
88 Sr # 3	2.206	2.206	ug/l	0.56	1800.00		52510.92	53794.53	53972.09
95 Mo # 3	-0.009409	-0.009409	ug/l	24.32	1800.00		80.00	66.67	83.34
107 Ag # 3	-0.001319	-0.001319	ug/l	158.53	100.00		86.67	100.00	130.00
111 Cd # 3	0.0006216	0.0006216	ug/l	579.63	100.00		16.65	6.65	-0.02
118 Sn # 3	0.05949	0.05949	ug/l	20.79	1800.00		1180.08	1020.06	1176.74
121 Sb # 3	0.009648	0.009648	ug/l	17.62	100.00		106.67	133.34	130.00
137 Ba # 3	2.179	2.179	ug/l	1.21	1800.00		8442.34	8565.74	8372.30
202 Hg # 3	-0.01355	-0.01355	ug/l	19.28	5.00		74.67	73.33	88.00
205 Tl # 3	-0.003377	-0.003377	ug/l	17.90	20.00		96.67	90.00	120.00
208 Pb # 3	0.001292	0.001292	ug/l	260.37	1800.00		1523.41	1293.40	1420.07
232 Th # 3	0.01405	0.01405	ug/l	5.55	#VALUE!		830.06	783.38	823.38
238 U # 3	0.001971	0.001971	ug/l	11.13	#VALUE!		113.34	110.01	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	387779.44	0.21	442436.88	87.6	60 - 125		386829.75	388372.44	388136.13
45 Sc # 1	408409.50	0.17	456299.72	89.5	60 - 125		408864.44	407598.50	408765.56
45 Sc # 3	682515.75	0.89	765061.25	89.2	60 - 125		676601.38	682149.81	688795.88
74 Ge # 1	144180.33	0.36	153441.28	94.0	60 - 125		144506.13	143585.66	144449.20
74 Ge # 2	42565.76	0.54	47804.94	89.0	60 - 125		42599.54	42775.56	42322.20
74 Ge # 3	209511.66	0.99	224564.78	93.3	60 - 125		207114.50	210761.33	210659.14
89 Y # 3	1242785.90	1.09	1302847.50	95.4	60 - 125		1228449.60	1244506.60	1255401.50
115 In # 3	1296754.10	0.29	1366177.60	94.9	60 - 125		1301111.80	1295022.30	1294128.40
159 Tb # 3	1900628.30	0.29	2052817.90	92.6	60 - 125		1894599.10	1901775.40	1905510.40
209 Bi # 3	1290694.00	1.81	1405468.50	91.8	60 - 125		1268615.40	1288283.80	1315183.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\187SMPL.D\187SMPL.D#
 Date Acquired: Aug 25 2014 09:01 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-4-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.003337	0.003337	ug/l	57.78	100.00		6.67	3.33	10.00
11 B #3	3.254	3.254	ug/l	2.70	1800.00		6321.20	6604.60	6591.31
23 Na #1	371.3	371.3	ug/l	0.39	81000.00		1268911.30	1256871.90	1275246.00
24 Mg #1	231.1	231.1	ug/l	0.04	81000.00		515184.78	513459.69	518250.94
27 Al #1	7.722	7.722	ug/l	1.51	81000.00		22193.33	21879.55	21706.65
39 K #2	166.5	166.5	ug/l	0.81	81000.00		65049.38	65450.41	65697.56
40 Ca #1	400.7	400.7	ug/l	0.62	81000.00		2460808.80	2482977.00	2481768.30
47 Ti #3	-0.009248	-0.009248	ug/l	55.31	1620.00		93.34	86.67	96.67
51 V #2	0.05357	0.05357	ug/l	22.81	1800.00		312.23	367.79	374.45
52 Cr #2	0.02358	0.02358	ug/l	38.55	1800.00		406.68	370.01	364.45
55 Mn #3	13.13	13.13	ug/l	0.42	1800.00		236883.95	237953.28	242241.34
56 Fe #1	163.9	163.9	ug/l	0.92	81000.00		1323308.40	1308854.80	1306952.40
59 Co #3	0.01522	0.01522	ug/l	4.03	1800.00		263.34	280.01	280.01
60 Ni #2	0.0853	0.0853	ug/l	22.15	1800.00		137.78	165.56	124.45
63 Cu #2	-0.01441	-0.01441	ug/l	33.03	1800.00		355.56	382.23	356.67
66 Zn #3	5.441	5.441	ug/l	0.97	1800.00		11317.07	11530.57	11477.21
75 As #2	0.05592	0.05592	ug/l	13.57	100.00		33.33	33.67	29.67
78 Se #1	-0.03081	-0.03081	ug/l	27.12	100.00		14.33	10.67	10.67
88 Sr #3	1.134	1.134	ug/l	1.68	1800.00		27778.81	27251.19	27508.23
95 Mo #3	-0.0151	-0.0151	ug/l	5.44	1800.00		53.34	53.34	60.00
107 Ag #3	-0.002075	-0.002075	ug/l	27.95	100.00		90.00	103.34	103.34
111 Cd #3	0.003419	0.003419	ug/l	132.64	100.00		9.99	26.66	6.65
118 Sn #3	0.06613	0.06613	ug/l	4.38	1800.00		1193.41	1176.75	1200.08
121 Sb #3	0.005562	0.005562	ug/l	24.88	100.00		80.00	103.34	83.34
137 Ba #3	1.343	1.343	ug/l	1.99	1800.00		5127.56	5434.39	5337.67
202 Hg #3	-0.01875	-0.01875	ug/l	4.41	5.00		65.67	62.67	62.00
205 Tl #3	-0.001909	-0.001909	ug/l	82.61	20.00		186.67	116.67	120.00
208 Pb #3	-0.008062	-0.008062	ug/l	22.91	1800.00		1053.38	1056.71	1176.72
232 Th #3	0.01198	0.01198	ug/l	2.47	#VALUE!		720.04	746.71	750.05
238 U #3	0.000872	0.000872	ug/l	64.56	#VALUE!		60.00	43.33	90.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	392775.75	1.05	442436.88	88.8	60 - 125		389024.47	392127.59	397175.16
45 Sc #1	412837.59	0.44	456299.72	90.5	60 - 125		412414.41	411263.84	414834.50
45 Sc #3	692967.19	1.03	765061.25	90.6	60 - 125		684788.75	696128.25	697984.56
74 Ge #1	144845.53	0.17	153441.28	94.4	60 - 125		145076.17	144877.03	144583.39
74 Ge #2	42972.68	1.15	47804.94	89.9	60 - 125		42430.34	43089.62	43398.09
74 Ge #3	211237.27	0.77	224564.78	94.1	60 - 125		209995.72	210642.20	213073.84
89 Y #3	1242067.90	1.22	1302847.50	95.3	60 - 125		1231228.10	1235523.00	1259452.60
115 In #3	1314727.50	1.58	1366177.60	96.2	60 - 125		1292198.80	1318826.90	1333156.90
159 Tb #3	1919570.80	0.91	2052817.90	93.5	60 - 125		1899385.80	1929571.90	1929755.10
209 Bi #3	1302023.30	1.27	1405468.50	92.6	60 - 125		1289309.10	1296033.90	1320726.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\188SMPL.D\188SMPL.D#
 Date Acquired: Aug 25 2014 09:09 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-5-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	7.396E-005	7.396E-005	ug/l	1527.90	100.00		0.00	0.00	3.33
11 B #3	2.88	2.88	ug/l	3.44	1800.00		5824.36	6144.45	6014.43
23 Na #1	298	298	ug/l	1.38	81000.00		1049939.80	1042151.90	1025817.20
24 Mg #1	241.4	241.4	ug/l	1.09	81000.00		546272.94	541566.75	535586.56
27 Al #1	4.549	4.549	ug/l	1.40	81000.00		13688.62	13428.40	13695.20
39 K #2	122.8	122.8	ug/l	1.82	81000.00		50705.52	51393.78	52403.00
40 Ca #1	488.3	488.3	ug/l	0.37	81000.00		3033724.00	3022715.80	3022282.80
47 Ti #3	0.01032	0.01032	ug/l	433.72	1620.00		106.67	160.04	70.00
51 V #2	0.01769	0.01769	ug/l	60.54	1800.00		287.78	261.12	237.78
52 Cr #2	0.01628	0.01628	ug/l	107.37	1800.00		406.67	364.45	305.56
55 Mn #3	12.84	12.84	ug/l	0.86	1800.00		232206.30	236712.34	236517.11
56 Fe #1	39.53	39.53	ug/l	1.53	81000.00		325586.25	321798.84	316530.31
59 Co #3	0.007614	0.007614	ug/l	5.28	1800.00		176.67	166.67	170.01
60 Ni #2	0.04969	0.04969	ug/l	17.77	1800.00		97.78	96.67	114.45
63 Cu #2	0.03057	0.03057	ug/l	15.93	1800.00		508.90	490.01	511.12
66 Zn #3	1.319	1.319	ug/l	8.07	1800.00		3290.40	3020.33	3430.43
75 As #2	0.06661	0.06661	ug/l	19.23	100.00		33.33	33.33	40.67
78 Se #1	-0.04141	-0.04141	ug/l	43.59	100.00		14.67	6.33	7.00
88 Sr #3	1.479	1.479	ug/l	2.37	1800.00		35712.86	36347.40	35375.53
95 Mo #3	-0.01848	-0.01848	ug/l	23.54	1800.00		23.33	56.67	46.67
107 Ag #3	-0.004996	-0.004996	ug/l	17.63	100.00		56.67	76.67	66.67
111 Cd #3	0.001092	0.001092	ug/l	201.92	100.00		13.33	3.32	9.99
118 Sn #3	0.05997	0.05997	ug/l	13.36	1800.00		1073.40	1136.74	1203.41
121 Sb #3	0.007649	0.007649	ug/l	26.12	100.00		116.67	116.67	86.67
137 Ba #3	0.974	0.974	ug/l	3.32	1800.00		3663.83	3873.90	3957.26
202 Hg #3	-0.01353	-0.01353	ug/l	55.53	5.00		58.33	75.34	104.67
205 Tl #3	-0.004221	-0.004221	ug/l	8.15	20.00		90.00	73.34	80.00
208 Pb #3	-0.01893	-0.01893	ug/l	14.54	1800.00		593.36	780.03	756.70
232 Th #3	0.006925	0.006925	ug/l	7.59	#VALUE!		523.36	563.36	536.69
238 U #3	0.0004673	0.0004673	ug/l	62.04	#VALUE!		46.67	60.00	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	392009.28	0.62	442436.88	88.6	60 - 125		389224.25	392973.16	393830.47
45 Sc #1	414833.88	0.16	456299.72	90.9	60 - 125		414115.50	415442.38	414943.72
45 Sc #3	694219.63	0.78	765061.25	90.7	60 - 125		689871.19	692543.00	700244.75
74 Ge #1	146338.11	0.43	153441.28	95.4	60 - 125		147048.47	145823.44	146142.39
74 Ge #2	43031.67	0.86	47804.94	90.0	60 - 125		42631.79	43363.56	43099.67
74 Ge #3	212359.52	0.26	224564.78	94.6	60 - 125		211778.48	212898.83	212401.23
89 Y #3	1240977.10	1.23	1302847.50	95.3	60 - 125		1229774.80	1234753.40	1258403.40
115 In #3	1306621.40	0.78	1366177.60	95.6	60 - 125		1295116.10	1314261.30	1310486.60
159 Tb #3	1916339.50	0.69	2052817.90	93.4	60 - 125		1901071.90	1923751.90	1924195.00
209 Bi #3	1299448.00	0.06	1405468.50	92.5	60 - 125		1298894.10	1299034.00	1300416.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\189SMPL.D\189SMPL.D#
 Date Acquired: Aug 25 2014 09:16 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48925-b-6-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B #3	2.88	2.88	ug/l	1.52	1800.00		6194.48	6081.10	6051.09
23 Na #1	287.8	287.8	ug/l	1.15	81000.00		1004087.90	997586.31	1011273.60
24 Mg #1	203.1	203.1	ug/l	0.40	81000.00		453334.41	454752.38	455252.69
27 Al #1	6.496	6.496	ug/l	0.44	81000.00		18672.80	18893.05	18636.17
39 K #2	86.89	86.89	ug/l	1.10	81000.00		39635.59	40206.63	41212.37
40 Ca #1	383.7	383.7	ug/l	0.64	81000.00		2383693.80	2382483.00	2365826.80
47 Ti #3	0.01252	0.01252	ug/l	227.64	1620.00		123.34	83.34	140.01
51 V #2	0.03384	0.03384	ug/l	32.03	1800.00		275.56	330.01	310.01
52 Cr #2	0.02319	0.02319	ug/l	54.33	1800.00		423.34	363.34	362.23
55 Mn #3	15.21	15.21	ug/l	0.76	1800.00		277949.75	284695.38	283134.22
56 Fe #1	73.87	73.87	ug/l	0.35	81000.00		593375.13	596412.88	596797.25
59 Co #3	0.01294	0.01294	ug/l	16.18	1800.00		250.01	216.67	276.68
60 Ni #2	0.1404	0.1404	ug/l	3.06	1800.00		198.89	207.78	212.23
63 Cu #2	-0.02704	-0.02704	ug/l	31.24	1800.00		308.89	356.67	322.23
66 Zn #3	0.567	0.567	ug/l	3.70	1800.00		1726.80	1740.13	1830.15
75 As #2	0.07454	0.07454	ug/l	20.70	100.00		37.00	44.00	35.00
78 Se #1	-0.03555	-0.03555	ug/l	22.54	100.00		9.00	10.33	13.00
88 Sr #3	1.302	1.302	ug/l	1.25	1800.00		31167.76	31788.86	32263.07
95 Mo #3	-0.01487	-0.01487	ug/l	20.32	1800.00		53.33	46.67	70.00
107 Ag #3	-0.004545	-0.004545	ug/l	24.44	100.00		63.34	66.67	86.67
111 Cd #3	0.0005871	0.0005871	ug/l	374.38	100.00		13.32	3.32	6.65
118 Sn #3	0.08268	0.08268	ug/l	7.76	1800.00		1296.75	1373.43	1280.08
121 Sb #3	0.005791	0.005791	ug/l	27.65	100.00		103.34	93.34	76.67
137 Ba #3	0.6031	0.6031	ug/l	2.10	1800.00		2383.57	2370.24	2473.60
202 Hg #3	-0.01804	-0.01804	ug/l	19.19	5.00		55.33	77.00	64.33
205 Tl #3	-0.003579	-0.003579	ug/l	25.35	20.00		93.34	123.34	76.67
208 Pb #3	-0.01944	-0.01944	ug/l	4.19	1800.00		716.70	690.03	666.70
232 Th #3	0.00535	0.00535	ug/l	16.20	#VALUE!		520.03	470.02	460.02
238 U #3	0.0004582	0.0004582	ug/l	44.13	#VALUE!		40.00	46.67	56.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	399462.84	0.44	442436.88	90.3	60 - 125		400599.91	400370.81	397417.84
45 Sc #1	413886.09	0.50	456299.72	90.7	60 - 125		411967.00	416098.47	413592.88
45 Sc #3	700111.50	0.48	765061.25	91.5	60 - 125		696424.88	703107.38	700802.19
74 Ge #1	145941.34	0.44	153441.28	95.1	60 - 125		145328.13	146603.95	145891.97
74 Ge #2	43400.33	1.43	47804.94	90.8	60 - 125		43012.75	43071.76	44116.48
74 Ge #3	215184.88	0.92	224564.78	95.8	60 - 125		213109.97	215415.48	217029.16
89 Y #3	1248990.30	0.64	1302847.50	95.9	60 - 125		1239833.50	1254616.00	1252521.50
115 In #3	1318940.30	0.97	1366177.60	96.5	60 - 125		1304140.90	1325408.10	1327271.90
159 Tb #3	1915760.40	0.57	2052817.90	93.3	60 - 125		1903076.60	1921427.90	1922776.40
209 Bi #3	1308871.90	0.35	1405468.50	93.1	60 - 125		1303619.80	1310720.00	1312275.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\190SMPL.D\190SMPL.D#
 Date Acquired: Aug 25 2014 09:24 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104491-a-1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	7.187E-005	7.187E-005	ug/l	1566.70	100.00		0.00	0.00	3.33
11 B #3	31.75	31.75	ug/l	0.42	1800.00		44491.29	44517.89	45002.27
23 Na #1	22340	22340	ug/l	0.72	81000.00		73485000.00	73346416.00	73833840.00
24 Mg #1	4329	4329	ug/l	1.05	81000.00		9971517.00	9914165.00	10066107.00
27 Al #1	45.52	45.52	ug/l	0.84	81000.00		126087.45	125570.28	126872.78
39 K #2	1801	1801	ug/l	1.69	81000.00		586182.00	592619.31	601597.19
40 Ca #1	10300	10300	ug/l	0.73	81000.00		65197492.00	65170932.00	65523520.00
47 Ti #3	0.7147	0.7147	ug/l	3.58	1620.00		816.71	850.04	873.38
51 V #2	0.3222	0.3222	ug/l	2.55	1800.00		1034.48	1006.70	1046.71
52 Cr #2	0.1011	0.1011	ug/l	5.95	1800.00		606.68	638.91	614.46
55 Mn #3	5.334	5.334	ug/l	1.60	1800.00		97438.21	100289.36	99990.76
56 Fe #1	53.18	53.18	ug/l	0.19	81000.00		447019.72	442270.63	442763.75
59 Co #3	0.02921	0.02921	ug/l	16.83	1800.00		423.35	550.02	443.35
60 Ni #2	0.4641	0.4641	ug/l	3.21	1800.00		584.46	551.12	578.90
63 Cu #2	0.5308	0.5308	ug/l	2.63	1800.00		2026.80	2099.03	2040.13
66 Zn #3	4.931	4.931	ug/l	14.56	1800.00		9232.60	10343.18	12114.32
75 As #2	0.1759	0.1759	ug/l	12.59	100.00		70.67	80.00	65.67
78 Se #1	-0.003811	-0.003811	ug/l	137.26	100.00		18.00	20.67	18.67
88 Sr #3	78.39	78.39	ug/l	0.70	1800.00		1897050.40	1926804.10	1922163.80
95 Mo #3	0.1331	0.1331	ug/l	17.73	1800.00		616.70	726.70	546.69
107 Ag #3	-0.0009081	-0.0009081	ug/l	157.14	100.00		116.67	123.34	93.34
111 Cd #3	0.0005593	0.0005593	ug/l	641.70	100.00		-0.14	16.51	6.55
118 Sn #3	0.1044	0.1044	ug/l	8.53	1800.00		1426.77	1533.44	1440.10
121 Sb #3	0.04844	0.04844	ug/l	10.34	100.00		420.02	490.02	490.02
137 Ba #3	3.852	3.852	ug/l	1.19	1800.00		15013.67	15083.78	15110.37
202 Hg #3	-0.0171	-0.0171	ug/l	12.64	5.00		62.00	75.67	68.34
205 Tl #3	-0.005385	-0.005385	ug/l	2.95	20.00		53.34	53.34	46.67
208 Pb #3	0.03166	0.03166	ug/l	10.68	1800.00		2596.84	2523.49	2393.48
232 Th #3	0.006662	0.006662	ug/l	6.97	#VALUE!		530.03	513.36	506.69
238 U #3	0.006361	0.006361	ug/l	16.55	#VALUE!		250.01	330.02	256.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	393870.28	0.31	442436.88	89.0	60 - 125		392630.41	393888.72	395091.72
45 Sc #1	427529.53	0.50	456299.72	93.7	60 - 125		429952.56	426754.97	425881.06
45 Sc #3	706551.00	0.33	765061.25	92.4	60 - 125		704036.00	708608.19	707008.63
74 Ge #1	148251.95	0.26	153441.28	96.6	60 - 125		148168.69	148667.33	147919.86
74 Ge #2	43380.69	0.39	47804.94	90.7	60 - 125		43574.15	43307.90	43260.02
74 Ge #3	213989.86	0.05	224564.78	95.3	60 - 125		213963.84	213896.30	214109.39
89 Y #3	1257602.90	0.32	1302847.50	96.5	60 - 125		1255437.30	1262242.40	1255129.10
115 In #3	1309441.40	0.86	1366177.60	95.8	60 - 125		1322402.00	1304004.40	1301917.80
159 Tb #3	1922537.30	0.69	2052817.90	93.7	60 - 125		1909142.60	1922897.50	1935571.60
209 Bi #3	1265008.40	1.21	1405468.50	90.0	60 - 125		1248474.90	1278730.00	1267820.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\191SMPL.D\191SMPL.D#
 Date Acquired: Aug 25 2014 09:31 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104509-a-1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 3409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	49	49	ug/l	1.23	1800.00		66463.36	68363.16	68199.37
23 Na # 1	11460	11460	ug/l	0.50	81000.00		37584868.00	37903088.00	37746808.00
24 Mg # 1	929.3	929.3	ug/l	0.37	81000.00		2139681.80	2142625.50	2146855.50
27 Al # 1	5.886	5.886	ug/l	2.59	81000.00		17214.73	17935.48	17858.77
39 K # 2	2073	2073	ug/l	0.82	81000.00		682957.06	684351.38	695947.13
40 Ca # 1	8230	8230	ug/l	0.18	81000.00		52312820.00	52091940.00	52024648.00
47 Ti # 3	0.4156	0.4156	ug/l	5.25	1620.00		510.02	543.36	563.36
51 V # 2	0.249	0.249	ug/l	6.62	1800.00		892.25	822.25	844.47
52 Cr # 2	0.009335	0.009335	ug/l	80.16	1800.00		317.78	367.78	346.67
55 Mn # 3	3.306	3.306	ug/l	1.39	1800.00		61692.81	63017.13	63465.25
56 Fe # 1	62.21	62.21	ug/l	0.24	81000.00		520295.72	517520.94	517390.63
59 Co # 3	0.2932	0.2932	ug/l	3.69	1800.00		4347.32	4040.55	4163.93
60 Ni # 2	0.6529	0.6529	ug/l	6.20	1800.00		750.02	777.80	847.81
63 Cu # 2	1.182	1.182	ug/l	0.57	1800.00		4061.60	4146.06	4111.61
66 Zn # 3	31.49	31.49	ug/l	1.10	1800.00		64092.11	65329.73	65182.56
75 As # 2	0.7506	0.7506	ug/l	4.58	100.00		266.00	252.00	274.00
78 Se # 1	-0.02292	-0.02292	ug/l	10.76	100.00		13.67	14.33	14.67
88 Sr # 3	41.12	41.12	ug/l	1.18	1800.00		999287.88	1012908.90	1009961.30
95 Mo # 3	1.644	1.644	ug/l	3.93	1800.00		6234.58	6768.16	6634.76
107 Ag # 3	-0.0005837	-0.0005837	ug/l	118.13	100.00		113.34	123.34	110.00
111 Cd # 3	0.02961	0.02961	ug/l	65.32	100.00		45.30	128.52	55.21
118 Sn # 3	0.1341	0.1341	ug/l	11.63	1800.00		1610.12	1640.13	1853.49
121 Sb # 3	0.05082	0.05082	ug/l	7.53	100.00		453.35	523.36	500.03
137 Ba # 3	4.352	4.352	ug/l	0.77	1800.00		17008.96	17002.31	17502.71
202 Hg # 3	-0.01525	-0.01525	ug/l	24.73	5.00		65.67	87.67	70.00
205 Tl # 3	-0.004321	-0.004321	ug/l	23.10	20.00		86.67	100.00	50.00
208 Pb # 3	0.2475	0.2475	ug/l	14.46	1800.00		8677.89	10982.22	10859.68
232 Th # 3	0.005386	0.005386	ug/l	13.10	#VALUE!		450.02	506.69	463.35
238 U # 3	0.0009324	0.0009324	ug/l	80.74	#VALUE!		33.33	93.34	70.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	393283.03	0.39	442436.88	88.9	60 - 125		391645.09	394654.84	393549.22
45 Sc # 1	427269.59	0.21	456299.72	93.6	60 - 125		427905.59	427636.38	426266.78
45 Sc # 3	710589.44	0.86	765061.25	92.9	60 - 125		703524.44	714192.06	714051.94
74 Ge # 1	148581.33	1.19	153441.28	96.8	60 - 125		150416.55	146882.39	148445.05
74 Ge # 2	43778.61	0.73	47804.94	91.6	60 - 125		43410.32	43943.77	43981.73
74 Ge # 3	216337.91	0.38	224564.78	96.3	60 - 125		216169.52	215612.95	217231.28
89 Y # 3	1260931.10	1.62	1302847.50	96.8	60 - 125		1240519.60	1260954.00	1281319.80
115 In # 3	1320718.60	0.98	1366177.60	96.7	60 - 125		1310303.80	1316726.50	1335125.60
159 Tb # 3	1925570.80	0.32	2052817.90	93.8	60 - 125		1919258.10	1925763.90	1931690.40
209 Bi # 3	1277646.50	0.63	1405468.50	90.9	60 - 125		1275270.60	1286591.80	1271077.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\192SMPL.D\192SMPL.D#
 Date Acquired: Aug 25 2014 09:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104509-a-1-b ms
 Misc Info: 200.8TR 1/5
 Vial Number: 3410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.54	10.54	ug/l	1.76	100.00		18365.58	17788.47	18298.90
11 B # 3	89.67	89.67	ug/l	1.56	1800.00		122089.06	125558.33	122891.16
23 Na # 1	12230	12230	ug/l	0.22	81000.00		40701716.00	40847168.00	41021760.00
24 Mg # 1	1946	1946	ug/l	0.14	81000.00		4546354.00	4550283.50	4560135.00
27 Al # 1	1062	1062	ug/l	0.21	81000.00		2946737.50	2950042.50	2946516.30
39 K # 2	3044	3044	ug/l	1.19	81000.00		1015815.80	1009625.00	1020120.70
40 Ca # 1	9067	9067	ug/l	0.67	81000.00		58561340.00	58171060.00	58071360.00
47 Ti # 3	21.13	21.13	ug/l	1.37	1620.00		22260.32	22831.02	22717.62
51 V # 2	20.6	20.6	ug/l	0.61	1800.00		52583.40	52715.89	53787.98
52 Cr # 2	20.51	20.51	ug/l	1.08	1800.00		63994.31	63650.81	64453.65
55 Mn # 3	111.2	111.2	ug/l	0.70	1800.00		2063982.60	2058995.00	2090223.80
56 Fe # 1	1169	1169	ug/l	0.14	81000.00		9788540.00	9818962.00	9802135.00
59 Co # 3	10.82	10.82	ug/l	0.30	1800.00		151161.14	153154.41	153171.20
60 Ni # 2	21.63	21.63	ug/l	1.21	1800.00		24990.23	24813.31	25095.89
63 Cu # 2	21.71	21.71	ug/l	0.78	1800.00		68652.13	69030.23	69303.57
66 Zn # 3	52.15	52.15	ug/l	0.39	1800.00		106442.87	107522.64	108203.74
75 As # 2	22.11	22.11	ug/l	0.96	100.00		7416.18	7486.21	7464.20
78 Se # 1	21.52	21.52	ug/l	0.48	100.00		5588.53	5610.88	5647.55
88 Sr # 3	60.08	60.08	ug/l	0.52	1800.00		1473152.00	1495518.40	1505672.30
95 Mo # 3	22.35	22.35	ug/l	0.15	1800.00		87303.87	87631.64	87273.62
107 Ag # 3	10.28	10.28	ug/l	0.63	100.00		112307.27	111978.83	112673.45
111 Cd # 3	10.46	10.46	ug/l	1.83	100.00		24842.37	24251.44	24922.48
118 Sn # 3	42.56	42.56	ug/l	0.56	1800.00		314378.91	316495.81	317781.09
121 Sb # 3	10.67	10.67	ug/l	1.49	100.00		93471.73	94872.66	96316.88
137 Ba # 3	24.67	24.67	ug/l	0.61	1800.00		96177.86	97391.33	97457.91
202 Hg # 3	0.9815	0.9815	ug/l	0.90	5.00		3123.98	3210.34	3179.33
205 Tl # 3	8.005	8.005	ug/l	1.39	20.00		211714.92	209313.20	210868.98
208 Pb # 3	10.41	10.41	ug/l	0.77	1800.00		373263.00	374027.09	374968.31
232 Th # 3	10.47	10.47	ug/l	0.60	#VALUE!		397626.13	396689.84	403346.56
238 U # 3	10.44	10.44	ug/l	1.04	#VALUE!		415103.03	409034.56	418156.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	398029.44	0.47	442436.88	90.0	60 - 125		396427.06	397603.03	400058.22
45 Sc # 1	433430.09	0.22	456299.72	95.0	60 - 125		432328.63	433898.59	434063.09
45 Sc # 3	723448.81	0.10	765061.25	94.6	60 - 125		723768.63	723983.50	722594.38
74 Ge # 1	149923.44	0.24	153441.28	97.7	60 - 125		150012.25	149534.86	150223.17
74 Ge # 2	44280.23	1.24	47804.94	92.6	60 - 125		43708.87	44324.77	44807.04
74 Ge # 3	217095.53	0.47	224564.78	96.7	60 - 125		215936.80	217510.56	217839.23
89 Y # 3	1277489.40	0.71	1302847.50	98.1	60 - 125		1266979.60	1283250.60	1282237.90
115 In # 3	1318692.90	0.36	1366177.60	96.5	60 - 125		1315228.00	1324144.60	1316706.40
159 Tb # 3	1942100.60	0.98	2052817.90	94.6	60 - 125		1921178.80	1946776.00	1958346.60
209 Bi # 3	1274427.40	0.42	1405468.50	90.7	60 - 125		1269238.80	1274075.50	1279967.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\193SMPL.D\193SMPL.D#
 Date Acquired: Aug 25 2014 09:46 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104509-a-1-c msd
 Misc Info: 200.8TR 1/5
 Vial Number: 3411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.66	10.66	ug/l	2.71	100.00		18702.73	17965.27	18399.08
11 B # 3	89.7	89.7	ug/l	0.21	1800.00		122460.63	124370.26	123819.92
23 Na # 1	12180	12180	ug/l	0.81	81000.00		41268272.00	40687720.00	41098820.00
24 Mg # 1	1943	1943	ug/l	0.35	81000.00		4585568.50	4561983.00	4598669.00
27 Al # 1	1066	1066	ug/l	0.24	81000.00		2968132.50	2982552.80	2999871.30
39 K # 2	2979	2979	ug/l	0.52	81000.00		1002280.60	1009857.60	1013251.90
40 Ca # 1	9068	9068	ug/l	0.29	81000.00		58754812.00	58529264.00	58961712.00
47 Ti # 3	21.08	21.08	ug/l	0.13	1620.00		22644.22	22700.90	23141.44
51 V # 2	20.49	20.49	ug/l	0.85	1800.00		53383.48	53433.51	53702.16
52 Cr # 2	20.38	20.38	ug/l	1.35	1800.00		64788.12	64402.26	64402.35
55 Mn # 3	109.2	109.2	ug/l	0.68	1800.00		2058839.50	2073398.30	2094126.00
56 Fe # 1	1185	1185	ug/l	0.14	81000.00		9986673.00	10032522.00	10052065.00
59 Co # 3	10.63	10.63	ug/l	1.03	1800.00		151295.28	152492.03	155260.89
60 Ni # 2	21.44	21.44	ug/l	1.16	1800.00		25156.01	25090.38	25073.69
63 Cu # 2	21.48	21.48	ug/l	0.49	1800.00		68866.21	69464.02	69470.73
66 Zn # 3	51	51	ug/l	0.38	1800.00		106953.28	107163.98	107657.45
75 As # 2	22.03	22.03	ug/l	1.85	100.00		7578.58	7436.85	7594.59
78 Se # 1	21.71	21.71	ug/l	0.87	100.00		5773.26	5674.22	5747.92
88 Sr # 3	59.8	59.8	ug/l	0.41	1800.00		1491839.40	1488001.30	1506370.60
95 Mo # 3	22.29	22.29	ug/l	0.11	1800.00		87440.91	88620.13	88573.36
107 Ag # 3	10.2	10.2	ug/l	0.61	100.00		112535.55	113622.54	112435.13
111 Cd # 3	10.47	10.47	ug/l	3.01	100.00		25596.73	24458.16	24925.68
118 Sn # 3	42.61	42.61	ug/l	0.69	1800.00		320158.31	320396.56	320404.22
121 Sb # 3	10.6	10.6	ug/l	0.95	100.00		95603.32	95160.35	95422.53
137 Ba # 3	24.44	24.44	ug/l	0.53	1800.00		96921.70	97233.16	97643.07
202 Hg # 3	0.9716	0.9716	ug/l	1.13	5.00		3147.98	3186.32	3244.34
205 Tl # 3	7.913	7.913	ug/l	0.86	20.00		210812.52	212735.44	211481.80
208 Pb # 3	10.26	10.26	ug/l	0.77	1800.00		371545.94	376406.91	377076.88
232 Th # 3	10.37	10.37	ug/l	0.50	#VALUE!		398807.59	399952.91	402419.81
238 U # 3	10.3	10.3	ug/l	0.65	#VALUE!		411327.13	415534.06	415024.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	397998.63	0.70	442436.88	90.0	60 - 125		395229.56	400790.16	397976.13
45 Sc # 1	436939.75	0.30	456299.72	95.8	60 - 125		435809.94	436614.44	438394.81
45 Sc # 3	732508.63	1.06	765061.25	95.7	60 - 125		727249.25	728820.06	741456.56
74 Ge # 1	151719.89	0.42	153441.28	98.9	60 - 125		151382.11	151317.11	152460.45
74 Ge # 2	44921.45	0.99	47804.94	94.0	60 - 125		44410.53	45206.98	45146.83
74 Ge # 3	221675.28	0.53	224564.78	98.7	60 - 125		221644.61	220519.86	222861.41
89 Y # 3	1287071.30	0.36	1302847.50	98.8	60 - 125		1282840.60	1286455.60	1291917.60
115 In # 3	1334570.00	0.73	1366177.60	97.7	60 - 125		1323513.50	1341818.50	1338377.80
159 Tb # 3	1974366.00	0.58	2052817.90	96.2	60 - 125		1970097.50	1965625.80	1987375.00
209 Bi # 3	1290569.50	0.96	1405468.50	91.8	60 - 125		1278914.80	1289250.90	1303542.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\194_CCV.D\194_CCV.D#
 Date Acquired: Aug 25 2014 09:53 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	50.35 ug/l	0.89	50.00	89.5 - 110		85719.62	86895.16	87058.77
11 B	100.9 ug/l	1.40	100.00	89.5 - 110		138822.08	138440.80	138115.03
23 Na	5159 ug/l	0.70	5000.00	89.5 - 110		17424672.00	17384706.00	17525672.00
24 Mg	5164 ug/l	1.08	5000.00	89.5 - 110		12123645.00	12131420.00	12297000.00
27 Al	522.6 ug/l	0.96	500.00	89.5 - 110		1471753.50	1451952.00	1471160.10
39 K	4843 ug/l	0.78	5000.00	89.5 - 110		1620838.50	1624592.10	1649436.30
40 Ca	5265 ug/l	0.76	5000.00	89.5 - 110		34047540.00	34060604.00	34339080.00
47 Ti	50.91 ug/l	0.99	50.00	89.5 - 110		55188.21	54769.97	55743.03
51 V	49.62 ug/l	1.15	50.00	89.5 - 110		128936.51	129541.73	129423.09
52 Cr	49.51 ug/l	0.71	50.00	89.5 - 110		155322.56	156166.09	157586.52
55 Mn	508.8 ug/l	1.18	500.00	89.5 - 110		9486009.00	9538772.00	9710174.00
56 Fe	5417 ug/l	0.31	5000.00	89.5 - 110		45815764.00	45821460.00	45842712.00
59 Co	49.88 ug/l	0.25	50.00	89.5 - 110		708436.06	713410.94	711372.56
60 Ni	51.05 ug/l	1.46	50.00	89.5 - 110		59798.01	59168.20	60183.71
63 Cu	49.92 ug/l	1.39	50.00	89.5 - 110		160567.50	159938.91	160695.09
66 Zn	49.58 ug/l	1.32	50.00	89.5 - 110		101653.13	104307.85	104015.89
75 As	50.85 ug/l	0.93	50.00	89.5 - 110		17287.49	17271.83	17585.44
78 Se	51.16 ug/l	0.33	50.00	89.5 - 110		13589.07	13577.06	13572.06
88 Sr	49.05 ug/l	0.37	50.00	89.5 - 110		1236326.50	1220797.10	1237892.80
95 Mo	50.58 ug/l	1.20	50.00	89.5 - 110		198780.70	199933.56	199070.48
107 Ag	48.84 ug/l	1.43	50.00	89.5 - 110		537721.13	537499.31	537886.19
111 Cd	50.15 ug/l	1.70	50.00	89.5 - 110		119116.96	119012.60	119727.39
118 Sn	49.96 ug/l	0.80	50.00	89.5 - 110		376216.38	375958.53	370073.44
121 Sb	49.4 ug/l	2.02	50.00	89.5 - 110		446042.28	438780.34	443376.25
137 Ba	49.49 ug/l	2.07	50.00	89.5 - 110		197344.00	194376.50	196738.61
202 Hg	1.969 ug/l	1.11	2.50	89.5 - 110	Fail	6344.62	6191.22	6230.89
205 Tl	9.739 ug/l	1.65	10.00	89.5 - 110		255327.50	258030.52	257207.50
208 Pb	48.65 ug/l	1.60	50.00	89.5 - 110		1743755.80	1744843.50	1754578.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	397431.75	1.16	442436.88	89.8	60 - 125		394493.16	395056.56	402745.50
45 Sc	437323.38	0.28	456299.72	95.8	60 - 125		437872.13	438170.84	435927.13
45 Sc	735963.38	1.51	765061.25	96.2	60 - 125		727226.69	732213.25	748450.19
74 Ge	152804.84	0.30	153441.28	99.6	60 - 125		152523.08	153340.64	152550.77
74 Ge	44932.58	1.35	47804.94	94.0	60 - 125		44271.40	45064.37	45461.98
74 Ge	219647.75	0.10	224564.78	97.8	60 - 125		219397.13	219826.92	219719.19
89 Y	1292377.60	0.55	1302847.50	99.2	60 - 125		1292210.30	1285355.90	1299566.60
115 In	1329676.80	1.40	1366177.60	97.3	60 - 125		1329298.80	1348424.40	1311307.10
159 Tb	1947033.90	1.27	2052817.90	94.8	60 - 125		1970192.50	1949982.90	1920926.30
209 Bi	1277680.60	0.75	1405468.50	90.9	60 - 125		1267405.30	1286540.10	1279096.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\195_CCB.D\195_CCB.D#
 Date Acquired: Aug 25 2014 10:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00196	0.00196	ug/l	148.83	#VALUE!		0.00	10.00	3.33
11 B #3	2.252	2.252	ug/l	3.03	#VALUE!		5304.18	5410.87	5274.17
23 Na #1	-8.049	-8.049	ug/l	1.34	#VALUE!		64140.00	64006.54	64832.64
24 Mg #1	0.1871	0.1871	ug/l	16.77	#VALUE!		1513.44	1383.43	1480.10
27 Al #1	0.4777	0.4777	ug/l	186.29	#VALUE!		1530.12	1386.76	5692.93
39 K #2	-9.193	-9.193	ug/l	14.72	#VALUE!		9305.82	9936.25	9342.59
40 Ca #1	0.3015	0.3015	ug/l	13.74	#VALUE!		26438.95	26165.33	26679.42
47 Ti #3	-0.05598	-0.05598	ug/l	46.20	#VALUE!		23.33	76.67	40.00
51 V #2	-0.01635	-0.01635	ug/l	20.39	#VALUE!		175.56	190.00	183.34
52 Cr #2	-0.01661	-0.01661	ug/l	17.58	#VALUE!		277.78	264.45	261.12
55 Mn #3	0.008368	0.008368	ug/l	15.93	#VALUE!		1596.78	1573.45	1630.12
56 Fe #1	0.7755	0.7755	ug/l	5.09	#VALUE!		10873.77	10329.77	10569.94
59 Co #3	0.000923	0.000923	ug/l	101.73	#VALUE!		73.34	73.34	96.67
60 Ni #2	-0.01405	-0.01405	ug/l	8.65	#VALUE!		32.22	31.11	34.44
63 Cu #2	-0.06659	-0.06659	ug/l	2.66	#VALUE!		217.78	208.89	207.78
66 Zn #3	-0.1166	-0.1166	ug/l	13.22	#VALUE!		346.68	400.02	403.35
75 As #2	-0.001242	-0.001242	ug/l	422.46	#VALUE!		12.00	14.67	15.33
78 Se #1	-0.02658	-0.02658	ug/l	33.79	#VALUE!		12.33	16.00	11.67
88 Sr #3	0.001105	0.001105	ug/l	134.30	#VALUE!		203.34	143.34	210.01
95 Mo #3	0.03429	0.03429	ug/l	9.66	#VALUE!		246.68	243.34	270.01
107 Ag #3	0.005406	0.005406	ug/l	80.69	#VALUE!		143.34	170.01	240.01
111 Cd #3	0.0004878	0.0004878	ug/l	324.72	#VALUE!		3.28	9.95	9.94
118 Sn #3	0.09975	0.09975	ug/l	4.97	#VALUE!		1500.11	1446.78	1463.44
121 Sb #3	0.0192	0.0192	ug/l	13.98	#VALUE!		193.34	206.67	243.34
137 Ba #3	0.004185	0.004185	ug/l	135.44	#VALUE!		80.00	50.00	36.67
202 Hg #3	0.004079	0.004079	ug/l	42.58	#VALUE!		136.67	140.67	130.00
205 Tl #3	-0.0001121	-0.0001121	ug/l	1065.10	#VALUE!		226.68	170.01	176.67
208 Pb #3	-0.02239	-0.02239	ug/l	2.33	#VALUE!		616.69	583.36	593.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	405127.47	0.53	442436.88	91.6	60 - 125		404024.38	403770.25	407587.75
45 Sc #1	425565.72	0.64	456299.72	93.3	60 - 125		422596.13	426112.56	427988.47
45 Sc #3	726517.69	1.08	765061.25	95.0	60 - 125		723229.06	720819.44	735504.50
74 Ge #1	149122.77	0.11	153441.28	97.2	60 - 125		149194.55	149232.45	148941.33
74 Ge #2	44361.19	1.00	47804.94	92.8	60 - 125		44472.93	43873.76	44736.87
74 Ge #3	218210.11	0.22	224564.78	97.2	60 - 125		218177.19	217743.22	218709.94
89 Y #3	1286868.50	0.26	1302847.50	98.8	60 - 125		1283747.50	1290444.00	1286414.00
115 In #3	1343563.40	0.80	1366177.60	98.3	60 - 125		1331945.40	1345749.60	1352995.00
159 Tb #3	1951293.80	0.28	2052817.90	95.1	60 - 125		1945060.60	1954773.10	1954047.60
209 Bi #3	1301368.40	0.31	1405468.50	92.6	60 - 125		1298449.30	1299713.50	1305942.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\196_QCS.D\196_QCS.D#
 Date Acquired: Aug 25 2014 10:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.09 ug/l	5.82	0.10 69.5 - 130	
11 B	21.00 ug/l	1.30	20.00 69.5 - 130	
23 Na	45.94 ug/l	1.85	50.00 69.5 - 130	
24 Mg	56.82 ug/l	0.69	50.00 69.5 - 130	
27 Al	13.73 ug/l	0.60	10.00 69.5 - 130	Fail
39 K	39.38 ug/l	2.54	50.00 69.5 - 130	
40 Ca	59.43 ug/l	0.62	50.00 69.5 - 130	
47 Ti	1.09 ug/l	6.37	1.00 69.5 - 130	
51 V	0.98 ug/l	0.99	1.00 69.5 - 130	
52 Cr	1.12 ug/l	1.91	1.00 69.5 - 130	
55 Mn	1.10 ug/l	0.51	1.00 69.5 - 130	
56 Fe	25.05 ug/l	0.40	20.00 69.5 - 130	
59 Co	0.11 ug/l	5.57	0.10 69.5 - 130	
60 Ni	1.13 ug/l	1.94	1.00 69.5 - 130	
63 Cu	0.98 ug/l	1.74	1.00 69.5 - 130	
66 Zn	4.52 ug/l	3.33	4.00 69.5 - 130	
75 As	0.48 ug/l	4.13	0.50 69.5 - 130	
78 Se	0.46 ug/l	2.83	0.50 69.5 - 130	
88 Sr	0.20 ug/l	2.77	0.20 69.5 - 130	
95 Mo	1.00 ug/l	2.34	1.00 69.5 - 130	
107 Ag	0.21 ug/l	4.60	0.20 69.5 - 130	
111 Cd	0.10 ug/l	5.97	0.10 69.5 - 130	
118 Sn	1.10 ug/l	2.60	1.00 69.5 - 130	
121 Sb	1.00 ug/l	1.67	1.00 69.5 - 130	
137 Ba	0.99 ug/l	1.58	1.00 69.5 - 130	
202 Hg	0.15 ug/l	10.07	0.16 69.5 - 130	
205 Tl	0.19 ug/l	3.01	0.20 69.5 - 130	
208 Pb	0.27 ug/l	0.77	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	398790.03	3.32	442436.88	90.1	60 - 125		
45 Sc	432004.50	0.30	456299.72	94.7	60 - 125		
45 Sc	716819.88	3.26	765061.25	93.7	60 - 125		
74 Ge	150693.11	0.25	153441.28	98.2	60 - 125		
74 Ge	45054.70	0.88	47804.94	94.2	60 - 125		
74 Ge	217852.16	1.79	224564.78	97.0	60 - 125		
89 Y	1277263.10	2.29	1302847.50	98.0	60 - 125		
115 In	1331223.90	3.21	1366177.60	97.4	60 - 125		
159 Tb	1924039.80	3.19	2052817.90	93.7	60 - 125		
209 Bi	1281326.40	2.95	1405468.50	91.2	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\197_CCV.D\197_CCV.D#
 Date Acquired: Aug 25 2014 10:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.8 ug/l	0.69	50.00	89.5 - 110		85778.19	88404.73	87993.05
11 B	99.71 ug/l	0.81	100.00	89.5 - 110		134314.91	138711.83	137880.58
23 Na	5218 ug/l	3.68	5000.00	89.5 - 110		17185264.00	17435164.00	19486150.00
24 Mg	5224 ug/l	2.78	5000.00	89.5 - 110		12093383.00	12213620.00	13484115.00
27 Al	531.3 ug/l	2.78	500.00	89.5 - 110		1463863.30	1472405.40	1629913.10
39 K	4817 ug/l	1.79	5000.00	89.5 - 110		1606447.90	1627604.80	1661899.60
40 Ca	5301 ug/l	1.66	5000.00	89.5 - 110		34114868.00	34112728.00	37174760.00
47 Ti	51.69 ug/l	0.61	50.00	89.5 - 110		54754.32	55585.94	56579.05
51 V	49.69 ug/l	1.54	50.00	89.5 - 110		128702.42	129614.72	132361.17
52 Cr	49.63 ug/l	0.89	50.00	89.5 - 110		156275.34	157686.06	158929.63
55 Mn	506.1 ug/l	0.56	500.00	89.5 - 110		9364944.00	9642262.00	9683315.00
56 Fe	5431 ug/l	1.61	5000.00	89.5 - 110		45556100.00	45642876.00	49641364.00
59 Co	49.7 ug/l	0.63	50.00	89.5 - 110		699470.19	716708.88	717322.38
60 Ni	51.07 ug/l	0.22	50.00	89.5 - 110		60212.71	60015.53	60001.98
63 Cu	49.87 ug/l	0.92	50.00	89.5 - 110		160931.63	159965.09	162574.97
66 Zn	49.36 ug/l	1.79	50.00	89.5 - 110		103548.48	102712.26	103446.02
75 As	50.68 ug/l	1.79	50.00	89.5 - 110		17267.15	17235.11	17762.62
78 Se	52.93 ug/l	4.62	50.00	89.5 - 110		13560.05	13620.09	15021.00
88 Sr	49.5 ug/l	0.34	50.00	89.5 - 110		1220185.90	1239153.40	1257375.30
95 Mo	50.31 ug/l	0.78	50.00	89.5 - 110		196390.20	197529.75	199052.91
107 Ag	48.8 ug/l	0.72	50.00	89.5 - 110		533209.75	537845.00	536522.06
111 Cd	49.92 ug/l	0.73	50.00	89.5 - 110		117775.71	119265.14	118244.73
118 Sn	49.96 ug/l	0.58	50.00	89.5 - 110		366328.06	375589.94	377449.47
121 Sb	49.68 ug/l	0.05	50.00	89.5 - 110		438520.94	447526.91	446321.44
137 Ba	49.28 ug/l	0.06	50.00	89.5 - 110		192264.63	196461.50	195695.75
202 Hg	1.993 ug/l	0.85	2.50	89.5 - 110	Fail	6150.23	6259.92	6442.66
205 Tl	9.691 ug/l	1.34	10.00	89.5 - 110		252695.48	254596.48	253999.23
208 Pb	48.76 ug/l	0.89	50.00	89.5 - 110		1709837.00	1752232.50	1755504.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	397653.97	1.29	442436.88	89.9	60 - 125		391959.94	399068.16	401933.81
45 Sc	446668.31	3.36	456299.72	97.9	60 - 125		438897.94	437142.44	463964.56
45 Sc	730200.69	1.27	765061.25	95.4	60 - 125		719775.56	733244.56	737581.75
74 Ge	152956.41	1.25	153441.28	99.7	60 - 125		151552.56	152184.58	155132.05
74 Ge	45181.69	0.10	47804.94	94.5	60 - 125		45177.91	45230.34	45136.81
74 Ge	220479.03	1.62	224564.78	98.2	60 - 125		216721.19	220874.11	223841.80
89 Y	1288070.30	1.56	1302847.50	98.9	60 - 125		1265850.10	1293341.30	1305019.50
115 In	1326074.60	1.15	1366177.60	97.1	60 - 125		1308587.60	1336596.30	1333040.40
159 Tb	1933193.10	1.52	2052817.90	94.2	60 - 125		1906606.00	1928281.90	1964691.30
209 Bi	1274412.10	2.33	1405468.50	90.7	60 - 125		1241372.60	1282939.10	1298924.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\198_CCB.D\198_CCB.D#
 Date Acquired: Aug 25 2014 10:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.003259	0.003259	ug/l	58.39	#VALUE!		3.33	6.67	10.00
11 B #3	2.045	2.045	ug/l	6.34	#VALUE!		4884.06	5200.84	4894.06
23 Na #1	-8.581	-8.581	ug/l	1.65	#VALUE!		63187.02	63260.53	62207.26
24 Mg #1	0.08525	0.08525	ug/l	30.80	#VALUE!		1210.07	1186.74	1296.75
27 Al #1	-0.07949	-0.07949	ug/l	56.06	#VALUE!		1290.07	1273.41	1486.81
39 K #2	-9.44	-9.44	ug/l	6.68	#VALUE!		9579.40	9345.87	9469.29
40 Ca #1	0.162	0.162	ug/l	24.15	#VALUE!		26001.73	25671.33	25344.09
47 Ti #3	-0.08486	-0.08486	ug/l	2.10	#VALUE!		13.33	16.67	16.67
51 V #2	-0.01243	-0.01243	ug/l	41.22	#VALUE!		205.56	182.23	192.23
52 Cr #2	-0.01367	-0.01367	ug/l	71.46	#VALUE!		253.34	311.12	267.78
55 Mn #3	0.006392	0.006392	ug/l	98.87	#VALUE!		1633.46	1420.09	1620.12
56 Fe #1	0.6723	0.6723	ug/l	4.89	#VALUE!		9512.67	9979.61	9876.22
59 Co #3	7.566E-005	7.566E-005	ug/l	1455.20	#VALUE!		63.34	56.67	86.67
60 Ni #2	-0.01025	-0.01025	ug/l	10.74	#VALUE!		36.67	35.56	38.89
63 Cu #2	-0.06801	-0.06801	ug/l	2.29	#VALUE!		202.23	203.34	216.67
66 Zn #3	-0.09434	-0.09434	ug/l	10.89	#VALUE!		443.35	403.35	436.69
75 As #2	-0.001652	-0.001652	ug/l	236.56	#VALUE!		14.67	12.33	14.67
78 Se #1	-0.03254	-0.03254	ug/l	30.28	#VALUE!		14.00	9.00	12.67
88 Sr #3	0.000379	0.000379	ug/l	239.29	#VALUE!		150.01	156.67	190.01
95 Mo #3	0.03011	0.03011	ug/l	38.99	#VALUE!		266.68	260.01	186.67
107 Ag #3	0.004807	0.004807	ug/l	51.03	#VALUE!		160.01	163.34	213.34
111 Cd #3	0.001396	0.001396	ug/l	3.86	#VALUE!		9.94	9.94	9.96
118 Sn #3	0.104	0.104	ug/l	11.91	#VALUE!		1583.45	1523.44	1426.77
121 Sb #3	0.02029	0.02029	ug/l	8.94	#VALUE!		210.01	240.01	226.67
137 Ba #3	0.001342	0.001342	ug/l	268.26	#VALUE!		40.00	60.00	33.33
202 Hg #3	0.007193	0.007193	ug/l	32.98	#VALUE!		148.34	135.67	146.00
205 Tl #3	-0.003634	-0.003634	ug/l	9.53	#VALUE!		100.00	86.67	103.34
208 Pb #3	-0.02321	-0.02321	ug/l	1.82	#VALUE!		573.36	556.69	550.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	400889.09	0.55	442436.88	90.6	60 - 125		398526.56	401299.16	402841.59
45 Sc #1	427613.19	0.32	456299.72	93.7	60 - 125		429110.50	427324.97	426403.97
45 Sc #3	711895.69	0.46	765061.25	93.1	60 - 125		708576.13	711965.56	715145.38
74 Ge #1	150324.78	0.41	153441.28	98.0	60 - 125		150174.61	149799.41	151000.34
74 Ge #2	44440.95	1.53	47804.94	93.0	60 - 125		43871.46	44257.91	45193.47
74 Ge #3	217467.44	0.28	224564.78	96.8	60 - 125		217109.20	217123.61	218169.50
89 Y #3	1272972.40	0.61	1302847.50	97.7	60 - 125		1280851.50	1272856.40	1265209.30
115 In #3	1352066.00	1.40	1366177.60	99.0	60 - 125		1349741.50	1334417.30	1372039.50
159 Tb #3	1922519.10	0.54	2052817.90	93.7	60 - 125		1910469.50	1929103.10	1927985.00
209 Bi #3	1291536.60	0.84	1405468.50	91.9	60 - 125		1281177.90	1302848.30	1290583.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\199SMPL.D\199SMPL.D#
 Date Acquired: Aug 25 2014 10:30 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48844-a-21-b
 Misc Info: 3005 1/20
 Vial Number: 4207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	69.52	17.38	ug/l	0.78	100.00		33405.72	33635.93	33278.65
11 B # 3	8.24	2.06	ug/l	3.23	1800.00		5640.95	5530.91	5510.92
23 Na # 1	246840	61710	ug/l	0.27	81000.00		222113700.00	221882740.00	222970500.00
24 Mg # 1	190760	47690	ug/l	0.35	81000.00		120598610.00	120698060.00	120082320.00
27 Al # 1	51520	12880	ug/l	0.12	81000.00		38657708.00	38604348.00	38598224.00
39 K # 2	10040	2510	ug/l	2.04	81000.00		928396.00	942040.63	970523.81
40 Ca # 1	268600	67150	ug/l	0.55	81000.00		465416800.00	468060990.00	464286910.00
47 Ti # 3	0.5664	0.1416	ug/l	22.96	1620.00		246.68	326.68	296.68
51 V # 2	2.172	0.543	ug/l	2.40	1800.00		1818.99	1781.21	1871.22
52 Cr # 2	0.29684	0.07421	ug/l	15.39	1800.00		624.46	654.46	580.01
55 Mn # 3	2702.4	675.6	ug/l	1.11	1800.00		13502915.00	13629781.00	13580396.00
56 Fe # 1	6924	1731	ug/l	0.32	81000.00		15657433.00	15702885.00	15680356.00
59 Co # 3	181.4	45.35	ug/l	1.13	1800.00		685154.44	693812.13	690397.63
60 Ni # 2	177.16	44.29	ug/l	0.40	1800.00		57350.34	57556.49	57905.44
63 Cu # 2	90.6	22.65	ug/l	0.68	1800.00		80563.09	81139.88	81874.34
66 Zn # 3	395.36	98.84	ug/l	1.12	1800.00		218424.77	219804.19	219250.70
75 As # 2	33.268	8.317	ug/l	0.99	100.00		3209.62	3138.28	3173.62
78 Se # 1	11.02	2.755	ug/l	1.78	100.00		787.69	778.35	765.35
88 Sr # 3	594.8	148.7	ug/l	0.09	1800.00		24526866.00	24465400.00	24730460.00
95 Mo # 3	0.034384	0.008596	ug/l	87.72	1800.00		133.34	133.34	186.67
107 Ag # 3	0.25784	0.06446	ug/l	7.28	100.00		773.37	873.38	876.72
111 Cd # 3	3.1436	0.7859	ug/l	6.11	100.00		1750.11	1996.81	1940.13
118 Sn # 3	0.31184	0.07796	ug/l	8.50	1800.00		1236.75	1346.76	1333.43
121 Sb # 3	0.04892	0.01223	ug/l	18.32	100.00		153.34	170.01	130.00
137 Ba # 3	9524	2381	ug/l	1.39	1800.00	Fail	9595332.00	9496149.00	9502802.00
202 Hg # 3	0.676	0.169	ug/l	9.56	5.00		739.35	847.43	750.02
205 Tl # 3	1.364	0.341	ug/l	0.92	20.00		10930.78	11117.50	11007.48
208 Pb # 3	566.4	141.6	ug/l	0.45	1800.00		6106834.00	6096588.50	6097737.00
232 Th # 3	0.24376	0.06094	ug/l	3.25	#VALUE!		2393.60	2513.62	2313.58
238 U # 3	26.168	6.542	ug/l	1.69	#VALUE!		241320.64	241092.03	241565.00

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444750.03	0.55	442436.88	100.5	60 - 125		442010.50	445625.03	446614.56
45 Sc # 1	468177.31	0.17	456299.72	102.6	60 - 125		468972.13	467347.97	468211.84
45 Sc # 3	816490.56	0.49	765061.25	106.7	60 - 125		812093.81	819859.38	817518.44
74 Ge # 1	158145.91	0.36	153441.28	103.1	60 - 125		157497.56	158512.30	158427.91
74 Ge # 2	49946.56	0.41	47804.94	104.5	60 - 125		49945.86	49739.66	50154.15
74 Ge # 3	234402.52	1.19	224564.78	104.4	60 - 125		232182.19	233485.47	237539.94
89 Y # 3	8505309.00	0.52	1302847.50	652.8	60 - 125	IS 1	8483446.00	8476347.00	8556134.00
115 In # 3	1343206.10	0.81	1366177.60	98.3	60 - 125		1330748.30	1348188.10	1350682.30
159 Tb # 3	2336902.50	0.39	2052817.90	113.8	60 - 125		2329925.50	2333539.30	2347243.00
209 Bi # 3	1184962.00	1.63	1405468.50	84.3	60 - 125		1171260.30	1207042.10	1176583.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\2005MPL.D\2005MPL.D#
 Date Acquired: Aug 25 2014 10:37 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-d
 Misc Info: 3050 1/5
 Vial Number: 4201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.3549	0.3549	ug/l	4.19	100.00		676.69	670.03	626.69
11 B # 3	3.919	3.919	ug/l	2.47	1800.00		7898.46	8115.27	8141.90
23 Na # 1	402.9	402.9	ug/l	0.81	81000.00		1539544.80	1543029.50	1559672.50
24 Mg # 1	2418	2418	ug/l	0.38	81000.00		6102962.50	6116589.00	6070852.50
27 Al # 1	4561	4561	ug/l	0.68	81000.00		13570813.00	13733831.00	13640573.00
39 K # 2	911.9	911.9	ug/l	1.34	81000.00		318040.72	321612.81	323963.00
40 Ca # 1	31320	31320	ug/l	0.38	81000.00		217581680.00	215821680.00	217287810.00
47 Ti # 3	73.82	73.82	ug/l	3.03	1620.00		85393.67	86703.27	85688.85
51 V # 2	25.68	25.68	ug/l	1.24	1800.00		67502.94	67952.22	67924.57
52 Cr # 2	6.508	6.508	ug/l	1.47	1800.00		21038.58	21083.06	21093.08
55 Mn # 3	335.8	335.8	ug/l	2.06	1800.00		6474566.00	6530621.50	6418642.00
56 Fe # 1	9337	9337	ug/l	0.60	81000.00		84217312.00	84034168.00	84925872.00
59 Co # 3	6.69	6.69	ug/l	2.60	1800.00		97521.91	99168.02	96483.77
60 Ni # 2	11.65	11.65	ug/l	1.88	1800.00		13856.37	13767.41	13831.90
63 Cu # 2	4.153	4.153	ug/l	2.71	1800.00		13963.12	13698.48	14016.50
66 Zn # 3	18.54	18.54	ug/l	2.00	1800.00		39730.04	40274.59	39927.28
75 As # 2	3.412	3.412	ug/l	0.91	100.00		1169.37	1206.71	1204.71
78 Se # 1	0.07893	0.07893	ug/l	1.91	100.00		42.33	42.00	41.67
88 Sr # 3	50.27	50.27	ug/l	2.22	1800.00		1424207.40	1438391.00	1440829.90
95 Mo # 3	0.2225	0.2225	ug/l	8.91	1800.00		1053.39	1030.07	916.72
107 Ag # 3	0.006555	0.006555	ug/l	24.30	100.00		216.67	193.34	180.01
111 Cd # 3	0.05499	0.05499	ug/l	16.14	100.00		163.11	116.44	136.47
118 Sn # 3	2.415	2.415	ug/l	1.42	1800.00		19114.31	18817.37	18834.00
121 Sb # 3	0.1475	0.1475	ug/l	4.73	100.00		1410.10	1396.77	1313.43
137 Ba # 3	284.2	284.2	ug/l	2.38	1800.00		1131907.10	1143708.40	1131574.80
202 Hg # 3	-0.008697	-0.008697	ug/l	54.67	5.00		97.00	79.67	113.67
205 Tl # 3	0.06653	0.06653	ug/l	10.14	20.00		1873.50	2120.20	1893.51
208 Pb # 3	5.229	5.229	ug/l	2.49	1800.00		190630.67	191277.81	190330.47
232 Th # 3	3.13	3.13	ug/l	1.90	#VALUE!		117961.27	119570.02	119626.90
238 U # 3	0.3894	0.3894	ug/l	4.31	#VALUE!		14931.07	15878.62	15441.53

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	427747.84	0.18	442436.88	96.7	60 - 125		428239.94	426864.88	428138.69
45 Sc # 1	467224.44	0.10	456299.72	102.4	60 - 125		467746.16	466959.84	466967.31
45 Sc # 3	790383.31	2.37	765061.25	103.3	60 - 125		790739.38	771508.81	808901.81
74 Ge # 1	154193.53	0.20	153441.28	100.5	60 - 125		154060.38	153966.83	154553.41
74 Ge # 2	45450.49	1.55	47804.94	95.1	60 - 125		44770.30	46178.18	45402.98
74 Ge # 3	224994.78	1.28	224564.78	100.2	60 - 125		226949.14	221688.05	226347.16
89 Y # 3	1468872.60	1.73	1302847.50	112.7	60 - 125		1492632.00	1442208.40	1471777.50
115 In # 3	1341216.50	1.75	1366177.60	98.2	60 - 125		1357894.40	1314324.00	1351431.50
159 Tb # 3	1964706.00	2.20	2052817.90	95.7	60 - 125		1973435.80	1917755.60	2002926.60
209 Bi # 3	1269939.00	1.54	1405468.50	90.4	60 - 125		1275723.60	1248182.50	1285910.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\2015MPL.D\2015MPL.D#
 Date Acquired: Aug 25 2014 10:45 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dSD
 Misc Info: 3050 1/25
 Vial Number: 4202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.37785	0.07557	ug/l	16.63	100.00		150.01	120.00	170.01
11 B # 3	6.52	1.304	ug/l	16.29	1800.00		4704.03	4393.92	4157.21
23 Na # 1	401.65	80.33	ug/l	0.68	81000.00		383948.13	386966.19	386046.44
24 Mg # 1	2658.5	531.7	ug/l	0.08	81000.00		1325719.10	1331767.10	1339982.80
27 Al # 1	4932.5	986.5	ug/l	0.51	81000.00		2915118.80	2946295.80	2939187.50
39 K # 2	907	181.4	ug/l	1.98	81000.00		77652.77	77007.09	77847.28
40 Ca # 1	33385	6677	ug/l	1.01	81000.00		46237644.00	45684964.00	45942364.00
47 Ti # 3	77.7	15.54	ug/l	0.88	1620.00		18416.12	18569.64	18506.23
51 V # 2	26.18	5.236	ug/l	1.94	1800.00		14530.18	14408.98	14948.26
52 Cr # 2	6.64	1.328	ug/l	1.05	1800.00		4728.41	4747.31	4815.11
55 Mn # 3	352.05	70.41	ug/l	1.66	1800.00		1422363.80	1418895.10	1404686.40
56 Fe # 1	10010	2002	ug/l	0.45	81000.00		17836818.00	17919776.00	18194626.00
59 Co # 3	6.885	1.377	ug/l	1.27	1800.00		20975.69	21129.24	20945.61
60 Ni # 2	12.71	2.542	ug/l	0.80	1800.00		3165.85	3190.30	3214.76
63 Cu # 2	4.0415	0.8083	ug/l	3.04	1800.00		3206.98	3231.42	3124.74
66 Zn # 3	19.545	3.909	ug/l	3.55	1800.00		9332.65	9519.37	9062.48
75 As # 2	3.416	0.6832	ug/l	2.55	100.00		260.67	268.00	257.00
78 Se # 1	-0.0914	-0.01828	ug/l	40.61	100.00		17.00	14.33	18.33
88 Sr # 3	54.05	10.81	ug/l	0.67	1800.00		291192.63	289474.56	292770.63
95 Mo # 3	0.16675	0.03335	ug/l	7.97	1800.00		260.01	273.34	253.34
107 Ag # 3	-0.018225	-0.003645	ug/l	4.78	100.00		86.67	90.00	86.67
111 Cd # 3	0.0743	0.01486	ug/l	28.47	100.00		39.94	56.61	36.61
118 Sn # 3	2.6215	0.5243	ug/l	5.54	1800.00		5007.55	5030.87	4700.77
121 Sb # 3	0.1696	0.03392	ug/l	7.98	100.00		336.68	363.35	396.68
137 Ba # 3	272.1	54.42	ug/l	0.91	1800.00		227810.05	230159.84	229222.20
202 Hg # 3	-0.05355	-0.01071	ug/l	33.71	5.00		95.67	101.34	78.33
205 Tl # 3	0.0561	0.01122	ug/l	5.74	20.00		510.03	486.69	510.03
208 Pb # 3	5.27	1.054	ug/l	1.36	1800.00		40097.51	40101.36	40628.03
232 Th # 3	3.0845	0.6169	ug/l	1.36	#VALUE!		24530.14	24700.34	24947.36
238 U # 3	0.39035	0.07807	ug/l	6.76	#VALUE!		3473.85	3080.41	3200.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	444962.06	1.11	442436.88	100.6	60 - 125		440705.19	443834.25	450346.81
45 Sc # 1	464147.75	0.60	456299.72	101.7	60 - 125		461627.97	463645.25	467170.03
45 Sc # 3	803689.81	1.27	765061.25	105.0	60 - 125		794483.31	814697.19	801888.94
74 Ge # 1	159519.09	0.68	153441.28	104.0	60 - 125		158261.06	160145.88	160150.36
74 Ge # 2	47462.57	1.40	47804.94	99.3	60 - 125		46699.51	47796.75	47891.45
74 Ge # 3	234317.47	1.01	224564.78	104.3	60 - 125		232397.81	233608.41	236946.14
89 Y # 3	1385945.30	0.37	1302847.50	106.4	60 - 125		1380017.30	1388754.30	1389063.90
115 In # 3	1411962.00	1.21	1366177.60	103.4	60 - 125		1393572.90	1415008.50	1427304.80
159 Tb # 3	1997926.90	0.80	2052817.90	97.3	60 - 125		1987495.60	2016380.80	1989903.80
209 Bi # 3	1325951.30	0.81	1405468.50	94.3	60 - 125		1321947.30	1338172.50	1317734.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\202SMPL.D\202SMPL.D#
 Date Acquired: Aug 25 2014 10:52 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dPDS
 Misc Info: 3050 1/5
 Vial Number: 4203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	18.23	18.23	ug/l	0.69	100.00		33252.02	33799.59	33746.22
11 B # 3	39.69	39.69	ug/l	1.75	1800.00		60025.77	59594.75	59849.29
23 Na # 1	2221	2221	ug/l	0.73	81000.00		8026503.00	7951177.50	8034925.00
24 Mg # 1	4244	4244	ug/l	0.49	81000.00		10672137.00	10515636.00	10603442.00
27 Al # 1	4775	4775	ug/l	0.43	81000.00		14234835.00	14062248.00	14157290.00
39 K # 2	2962	2962	ug/l	11.84	81000.00		937572.69	937246.56	949839.44
40 Ca # 1	33130	33130	ug/l	0.34	81000.00		228767440.00	225951520.00	227123090.00
47 Ti # 3	91.16	91.16	ug/l	0.76	1620.00		106245.77	107133.95	105783.05
51 V # 2	47.41	47.41	ug/l	12.42	1800.00		116343.10	115970.97	115459.59
52 Cr # 2	26.7	26.7	ug/l	12.74	1800.00		79774.35	78377.22	79581.06
55 Mn # 3	525.2	525.2	ug/l	1.37	1800.00		10074587.00	10147284.00	10012449.00
56 Fe # 1	11260	11260	ug/l	0.74	81000.00		100720810.00	100941560.00	100797940.00
59 Co # 3	24.54	24.54	ug/l	1.49	1800.00		353374.53	359681.44	356996.78
60 Ni # 2	32.24	32.24	ug/l	12.39	1800.00		35517.30	35365.94	35306.91
63 Cu # 2	23.79	23.79	ug/l	12.67	1800.00		72332.69	71392.45	72020.38
66 Zn # 3	35.8	35.8	ug/l	0.58	1800.00		76589.66	75990.66	76158.01
75 As # 2	23.19	23.19	ug/l	12.44	100.00		7467.87	7318.81	7551.57
78 Se # 1	18.69	18.69	ug/l	1.03	100.00		5046.37	4912.67	5002.03
88 Sr # 3	66.15	66.15	ug/l	0.61	1800.00		1891633.50	1902180.80	1899534.10
95 Mo # 3	18.75	18.75	ug/l	1.39	1800.00		74026.98	74258.62	74037.72
107 Ag # 3	17.47	17.47	ug/l	1.23	100.00		191262.97	193491.14	193794.53
111 Cd # 3	18.09	18.09	ug/l	0.93	100.00		42850.35	43114.24	43404.92
118 Sn # 3	20.52	20.52	ug/l	1.70	1800.00		154572.89	155009.17	153707.53
121 Sb # 3	18.03	18.03	ug/l	1.91	100.00		162330.52	162845.80	160820.17
137 Ba # 3	302.9	302.9	ug/l	1.59	1800.00		1193317.80	1211396.90	1204191.50
202 Hg # 3	0.9774	0.9774	ug/l	0.66	5.00		3213.67	3232.01	3222.67
205 Tl # 3	3.498	3.498	ug/l	1.32	20.00		93980.87	94859.77	93233.36
208 Pb # 3	22.4	22.4	ug/l	0.51	1800.00		824161.88	814819.88	820458.19
232 Th # 3	21.86	21.86	ug/l	0.97	#VALUE!		831194.06	829082.56	830267.38
238 U # 3	18.09	18.09	ug/l	1.22	#VALUE!		713307.69	717749.31	715012.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	426087.28	1.43	442436.88	96.3	60 - 125		419391.06	427621.75	431249.06
45 Sc # 1	462774.91	0.66	456299.72	101.4	60 - 125		466290.75	461326.75	460707.25
45 Sc # 3	792293.81	0.12	765061.25	103.6	60 - 125		791965.81	791524.25	793391.38
74 Ge # 1	153213.94	0.39	153441.28	99.9	60 - 125		153860.38	152703.16	153078.30
74 Ge # 2	42549.34	11.28	47804.94	89.0	60 - 125		37008.10	45280.45	45359.47
74 Ge # 3	223908.17	0.72	224564.78	99.7	60 - 125		224559.53	222083.20	225081.80
89 Y # 3	1476526.10	0.68	1302847.50	113.3	60 - 125		1469165.30	1472527.30	1487885.80
115 In # 3	1332651.80	1.27	1366177.60	97.5	60 - 125		1328194.80	1318448.50	1351312.10
159 Tb # 3	1981720.40	0.45	2052817.90	96.5	60 - 125		1980898.10	1973197.90	1991065.10
209 Bi # 3	1270178.40	1.02	1405468.50	90.4	60 - 125		1268552.80	1258091.50	1283890.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\203SMPL.D\203SMPL.D#
 Date Acquired: Aug 25 2014 10:59 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-e ms
 Misc Info: 3050 1/5
 Vial Number: 4204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.48	10.48	ug/l	0.75	100.00		19193.10	19369.95	19470.01
11 B # 3	40.28	40.28	ug/l	1.13	1800.00		60711.45	60193.01	61326.51
23 Na # 1	1409	1409	ug/l	0.30	81000.00		5040841.50	5055441.00	5059755.50
24 Mg # 1	3234	3234	ug/l	0.32	81000.00		8011351.50	7965325.00	7951516.50
27 Al # 1	5401	5401	ug/l	0.59	81000.00		15880846.00	15846201.00	15706271.00
39 K # 2	1800	1800	ug/l	0.56	81000.00		600832.13	602482.63	615962.31
40 Ca # 1	34000	34000	ug/l	0.50	81000.00		229826050.00	231334290.00	229880850.00
47 Ti # 3	93.15	93.15	ug/l	0.96	1620.00		108112.46	109151.91	108103.15
51 V # 2	41.91	41.91	ug/l	1.54	1800.00		107915.68	107564.37	107934.49
52 Cr # 2	26.88	26.88	ug/l	1.56	1800.00		84006.98	83710.06	83988.00
55 Mn # 3	361.9	361.9	ug/l	1.23	1800.00		6848185.50	6889441.50	6849189.00
56 Fe # 1	10790	10790	ug/l	0.31	81000.00		95409008.00	95606528.00	95192664.00
59 Co # 3	14.6	14.6	ug/l	0.78	1800.00		209617.89	209337.23	209888.39
60 Ni # 2	29.73	29.73	ug/l	1.84	1800.00		34541.05	33991.15	34451.94
63 Cu # 2	24.63	24.63	ug/l	1.37	1800.00		78386.04	77733.30	78856.96
66 Zn # 3	36.99	36.99	ug/l	1.31	1800.00		77904.78	78152.78	77352.80
75 As # 2	24.87	24.87	ug/l	1.26	100.00		8372.26	8277.55	8539.67
78 Se # 1	21.16	21.16	ug/l	1.08	100.00		5578.86	5491.17	5603.20
88 Sr # 3	64.69	64.69	ug/l	0.86	1800.00		1859597.50	1823476.00	1867657.00
95 Mo # 3	19.68	19.68	ug/l	0.88	1800.00		78329.16	77910.61	78954.91
107 Ag # 3	10.17	10.17	ug/l	1.48	100.00		112314.62	113085.61	114230.05
111 Cd # 3	10.14	10.14	ug/l	2.61	100.00		23902.97	24617.35	24633.84
118 Sn # 3	43.69	43.69	ug/l	1.16	1800.00		330072.41	329806.25	332072.75
121 Sb # 3	5.494	5.494	ug/l	1.15	100.00		49905.86	49668.51	49802.39
137 Ba # 3	227.6	227.6	ug/l	0.90	1800.00		913989.38	906464.69	913153.19
202 Hg # 3	0.9141	0.9141	ug/l	1.06	5.00		3029.63	2964.28	2986.29
205 Tl # 3	7.835	7.835	ug/l	1.42	20.00		207024.73	205519.78	212600.36
208 Pb # 3	14.58	14.58	ug/l	0.18	1800.00		528976.19	528047.88	530532.63
232 Th # 3	13.39	13.39	ug/l	0.85	#VALUE!		511626.13	507511.66	509400.00
238 U # 3	10.64	10.64	ug/l	0.54	#VALUE!		423797.31	421551.75	419490.66

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	426530.16	0.16	442436.88	96.4	60 - 125		426284.63	427321.81	425983.97
45 Sc # 1	457105.91	0.13	456299.72	100.2	60 - 125		457661.66	456472.22	457183.88
45 Sc # 3	790484.81	0.90	765061.25	103.3	60 - 125		782733.50	792122.88	796598.13
74 Ge # 1	150912.58	0.48	153441.28	98.4	60 - 125		150183.81	150912.91	151641.03
74 Ge # 2	44336.68	1.54	47804.94	92.7	60 - 125		43679.92	44284.67	45045.45
74 Ge # 3	221213.45	0.88	224564.78	98.5	60 - 125		222500.41	218978.84	222161.09
89 Y # 3	1472020.00	0.47	1302847.50	113.0	60 - 125		1477602.30	1464211.30	1474246.40
115 In # 3	1343522.60	1.34	1366177.60	98.3	60 - 125		1353100.60	1322722.50	1354744.60
159 Tb # 3	1962831.90	0.40	2052817.90	95.6	60 - 125		1963525.80	1954575.40	1970394.10
209 Bi # 3	1272548.10	0.61	1405468.50	90.5	60 - 125		1273289.50	1279902.50	1264452.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\204SMPL.D\204SMPL.D#
 Date Acquired: Aug 25 2014 11:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-f msd
 Misc Info: 3050 1/5
 Vial Number: 4205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.65	10.65	ug/l	1.39	100.00		19319.85	19833.67	19353.22
11 B # 3	41.17	41.17	ug/l	1.84	1800.00		62583.83	60948.74	61122.84
23 Na # 1	1324	1324	ug/l	1.01	81000.00		4737671.00	4657798.00	4684093.50
24 Mg # 1	2829	2829	ug/l	0.39	81000.00		6861847.50	6933328.00	6874548.00
27 Al # 1	4711	4711	ug/l	0.26	81000.00		13575608.00	13669210.00	13600481.00
39 K # 2	1674	1674	ug/l	1.00	81000.00		561052.06	565172.75	573976.88
40 Ca # 1	24910	24910	ug/l	0.53	81000.00		166736000.00	167938130.00	165221170.00
47 Ti # 3	88.82	88.82	ug/l	0.57	1620.00		100826.17	100772.62	100645.46
51 V # 2	39.32	39.32	ug/l	0.69	1800.00		100914.62	101304.74	102342.36
52 Cr # 2	25.81	25.81	ug/l	0.34	1800.00		80535.10	81426.90	80730.41
55 Mn # 3	307	307	ug/l	0.94	1800.00		5789471.50	5728120.50	5831904.00
56 Fe # 1	9720	9720	ug/l	0.19	81000.00		84813736.00	85277360.00	84480544.00
59 Co # 3	14.31	14.31	ug/l	0.58	1800.00		204164.69	203215.14	205030.95
60 Ni # 2	28.37	28.37	ug/l	1.68	1800.00		33075.04	32429.44	33142.91
63 Cu # 2	23.75	23.75	ug/l	0.21	1800.00		75360.34	76035.19	76071.88
66 Zn # 3	35.38	35.38	ug/l	0.40	1800.00		73831.55	73761.02	74286.60
75 As # 2	24.16	24.16	ug/l	1.60	100.00		8206.18	8077.80	8275.55
78 Se # 1	20.42	20.42	ug/l	0.49	100.00		5369.14	5334.12	5349.79
88 Sr # 3	56.28	56.28	ug/l	1.35	1800.00		1537997.90	1566053.50	1582776.40
95 Mo # 3	19.98	19.98	ug/l	0.69	1800.00		78372.56	78533.41	78318.96
107 Ag # 3	10.21	10.21	ug/l	1.62	100.00		112857.74	112425.08	110731.09
111 Cd # 3	10.3	10.3	ug/l	0.31	100.00		24283.55	24416.97	24463.80
118 Sn # 3	43.86	43.86	ug/l	0.81	1800.00		325749.56	328925.16	326248.06
121 Sb # 3	5.692	5.692	ug/l	0.93	100.00		49982.84	51018.97	51446.98
137 Ba # 3	301.4	301.4	ug/l	1.30	1800.00		1186069.60	1200954.50	1179772.40
202 Hg # 3	0.9251	0.9251	ug/l	2.12	5.00		2919.61	3044.97	3066.65
205 Tl # 3	7.897	7.897	ug/l	0.65	20.00		208727.05	208432.19	209134.06
208 Pb # 3	14.34	14.34	ug/l	0.80	1800.00		516537.97	518681.41	516760.50
232 Th # 3	13.2	13.2	ug/l	0.29	#VALUE!		496872.19	501842.03	503359.88
238 U # 3	10.57	10.57	ug/l	0.78	#VALUE!		416651.09	415254.94	420156.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	423214.72	0.32	442436.88	95.7	60 - 125		421689.19	423684.69	424270.28
45 Sc # 1	451296.91	0.28	456299.72	98.9	60 - 125		451358.47	452542.63	449989.56
45 Sc # 3	770085.56	0.48	765061.25	100.7	60 - 125		767454.06	768507.81	774294.75
74 Ge # 1	150554.13	0.16	153441.28	98.1	60 - 125		150296.70	150788.81	150576.89
74 Ge # 2	44500.38	0.63	47804.94	93.1	60 - 125		44188.88	44732.44	44579.84
74 Ge # 3	219773.20	0.52	224564.78	97.9	60 - 125		218529.97	220041.45	220748.14
89 Y # 3	1428542.40	0.82	1302847.50	109.6	60 - 125		1428061.90	1417143.30	1440422.30
115 In # 3	1323445.80	0.63	1366177.60	96.9	60 - 125		1315934.00	1322092.80	1332310.60
159 Tb # 3	1951154.50	0.75	2052817.90	95.0	60 - 125		1937844.10	1948681.90	1966937.60
209 Bi # 3	1268110.00	0.52	1405468.50	90.2	60 - 125		1260599.80	1273122.40	1270607.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\205SMPL.D\205SMPL.D#
 Date Acquired: Aug 25 2014 11:14 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-2-b
 Misc Info: 3050 1/5
 Vial Number: 4206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.3116	0.3116	ug/l	7.89	100.00		530.02	620.03	573.36
11 B # 3	3.634	3.634	ug/l	3.27	1800.00		7608.32	7758.41	7418.24
23 Na # 1	279.6	279.6	ug/l	1.47	81000.00		1048279.40	1052725.90	1062486.90
24 Mg # 1	1905	1905	ug/l	1.14	81000.00		4603043.00	4543071.00	4613246.50
27 Al # 1	3635	3635	ug/l	0.58	81000.00		10443282.00	10335216.00	10381143.00
39 K # 2	707	707	ug/l	0.49	81000.00		242912.78	244419.70	246161.14
40 Ca # 1	31470	31470	ug/l	0.27	81000.00		209183330.00	207707760.00	207324380.00
47 Ti # 3	69.29	69.29	ug/l	0.27	1620.00		78969.66	79075.92	78959.39
51 V # 2	20.65	20.65	ug/l	0.78	1800.00		53351.09	52635.81	52858.70
52 Cr # 2	5.699	5.699	ug/l	0.31	1800.00		17939.81	17834.16	18082.16
55 Mn # 3	227.2	227.2	ug/l	0.83	1800.00		4302303.00	4263673.50	4330699.00
56 Fe # 1	9201	9201	ug/l	0.45	81000.00		79866976.00	79101152.00	79260456.00
59 Co # 3	4.02	4.02	ug/l	0.46	1800.00		57526.21	57864.24	57550.08
60 Ni # 2	7.913	7.913	ug/l	1.59	1800.00		9275.72	9062.27	9043.38
63 Cu # 2	4.106	4.106	ug/l	0.18	1800.00		13318.23	13272.63	13422.74
66 Zn # 3	15.44	15.44	ug/l	1.62	1800.00		33187.13	32399.27	32703.02
75 As # 2	4.194	4.194	ug/l	0.74	100.00		1430.39	1406.72	1425.06
78 Se # 1	0.06919	0.06919	ug/l	11.10	100.00		40.67	37.00	37.33
88 Sr # 3	45.07	45.07	ug/l	0.54	1800.00		1256008.80	1278454.10	1265912.80
95 Mo # 3	0.2801	0.2801	ug/l	10.74	1800.00		1346.76	1180.07	1146.74
107 Ag # 3	0.004399	0.004399	ug/l	8.72	100.00		170.01	166.67	180.01
111 Cd # 3	0.06463	0.06463	ug/l	15.32	100.00		176.38	169.75	136.42
118 Sn # 3	2.821	2.821	ug/l	0.80	1800.00		21567.29	21844.27	22341.59
121 Sb # 3	0.1794	0.1794	ug/l	1.88	100.00		1670.13	1606.79	1693.46
137 Ba # 3	260.5	260.5	ug/l	1.57	1800.00		1036273.30	1039509.60	1038162.70
202 Hg # 3	-0.009666	-0.009666	ug/l	24.03	5.00		99.67	95.33	85.33
205 Tl # 3	0.05897	0.05897	ug/l	6.63	20.00		1826.84	1820.16	1640.14
208 Pb # 3	4.45	4.45	ug/l	0.20	1800.00		162451.25	162529.11	162471.30
232 Th # 3	2.756	2.756	ug/l	0.22	#VALUE!		103663.20	104636.87	105941.88
238 U # 3	0.3722	0.3722	ug/l	0.19	#VALUE!		14624.03	14687.41	14857.71

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	425338.09	0.03	442436.88	96.1	60 - 125		425475.66	425198.47	425340.16
45 Sc # 1	446136.06	0.65	456299.72	97.8	60 - 125		448970.03	446271.31	443166.84
45 Sc # 3	773795.81	0.19	765061.25	101.1	60 - 125		774305.63	772160.44	774921.38
74 Ge # 1	150025.02	0.11	153441.28	97.8	60 - 125		150165.69	150073.02	149836.34
74 Ge # 2	44107.59	0.40	47804.94	92.3	60 - 125		44057.48	43959.48	44305.81
74 Ge # 3	220742.47	0.44	224564.78	98.3	60 - 125		219652.13	221022.66	221552.63
89 Y # 3	1446567.60	1.23	1302847.50	111.0	60 - 125		1426368.00	1460189.10	1453146.00
115 In # 3	1337087.80	1.58	1366177.60	97.9	60 - 125		1326610.10	1323235.90	1361417.40
159 Tb # 3	1963045.60	0.22	2052817.90	95.6	60 - 125		1961102.60	1967938.80	1960095.40
209 Bi # 3	1268268.80	1.01	1405468.50	90.2	60 - 125		1257924.00	1264273.60	1282608.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\206SMPL.D\206SMPL.D#
 Date Acquired: Aug 25 2014 11:21 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344679_1-a
 Misc Info: 200.8TT 1/5
 Vial Number: 4208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	2.346	2.346	ug/l	0.95	1800.00		5457.56	5567.60	5477.58
23 Na # 1	0.9697	0.9697	ug/l	31.27	81000.00		94745.35	94905.77	93623.06
24 Mg # 1	0.6286	0.6286	ug/l	4.88	81000.00		2453.56	2570.25	2440.23
27 Al # 1	3.411	3.411	ug/l	1.52	81000.00		11033.45	10870.05	10860.03
39 K # 2	-2.035	-2.035	ug/l	14.25	81000.00		11710.56	11817.36	11904.04
40 Ca # 1	11.04	11.04	ug/l	1.93	81000.00		95486.86	93376.09	95409.44
47 Ti # 3	0.1131	0.1131	ug/l	37.01	1620.00		190.01	196.67	270.01
51 V # 2	0.4785	0.4785	ug/l	1.70	1800.00		1402.29	1460.07	1470.07
52 Cr # 2	0.149	0.149	ug/l	5.46	1800.00		750.02	773.36	810.03
55 Mn # 3	0.4574	0.4574	ug/l	1.80	1800.00		10009.60	10209.73	10326.48
56 Fe # 1	2.314	2.314	ug/l	2.36	81000.00		23395.29	23819.15	22988.08
59 Co # 3	-2.74E-005	-2.74E-005	ug/l	955.11	1800.00		66.67	66.67	73.34
60 Ni # 2	0.03591	0.03591	ug/l	23.33	1800.00		83.33	84.45	101.11
63 Cu # 2	0.02332	0.02332	ug/l	2.34	1800.00		484.46	496.68	496.68
66 Zn # 3	0.865	0.865	ug/l	7.84	1800.00		2346.88	2383.55	2613.59
75 As # 2	0.1795	0.1795	ug/l	9.78	100.00		68.67	73.33	81.33
78 Se # 1	-0.02672	-0.02672	ug/l	31.49	100.00		13.00	12.00	16.33
88 Sr # 3	0.01936	0.01936	ug/l	9.35	1800.00		656.70	613.36	573.36
95 Mo # 3	0.01834	0.01834	ug/l	66.85	1800.00		133.34	183.34	226.67
107 Ag # 3	0.008744	0.008744	ug/l	50.57	100.00		166.67	260.01	206.67
111 Cd # 3	0.00163	0.00163	ug/l	236.32	100.00		6.64	19.96	3.28
118 Sn # 3	0.3154	0.3154	ug/l	4.84	1800.00		3050.38	2977.02	2840.32
121 Sb # 3	0.01251	0.01251	ug/l	12.18	100.00		146.67	133.34	160.01
137 Ba # 3	0.2917	0.2917	ug/l	10.54	1800.00		1020.06	1183.41	1250.09
202 Hg # 3	-0.01086	-0.01086	ug/l	32.32	5.00		82.67	99.34	79.00
205 Tl # 3	0.002994	0.002994	ug/l	15.17	20.00		263.35	280.01	256.68
208 Pb # 3	-0.001801	-0.001801	ug/l	98.33	1800.00		1230.06	1343.40	1346.73
232 Th # 3	0.1236	0.1236	ug/l	9.89	#VALUE!		5364.44	4654.20	4640.84
238 U # 3	0.0001721	0.0001721	ug/l	260.08	#VALUE!		53.34	20.00	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408131.75	0.59	442436.88	92.2	60 - 125		405698.28	410494.94	408202.06
45 Sc # 1	428191.72	0.42	456299.72	93.8	60 - 125		426224.59	428652.22	429698.38
45 Sc # 3	698448.25	0.78	765061.25	91.3	60 - 125		692340.13	700185.50	702819.06
74 Ge # 1	154500.48	0.11	153441.28	100.7	60 - 125		154531.91	154311.11	154658.44
74 Ge # 2	44053.76	1.25	47804.94	92.2	60 - 125		43432.59	44486.34	44242.35
74 Ge # 3	222241.92	0.13	224564.78	99.0	60 - 125		222261.03	221953.05	222511.72
89 Y # 3	1232044.80	0.50	1302847.50	94.6	60 - 125		1226081.50	1238381.90	1231671.00
115 In # 3	1281544.30	0.13	1366177.60	93.8	60 - 125		1280792.60	1280451.00	1283389.00
159 Tb # 3	1904372.90	0.34	2052817.90	92.8	60 - 125		1897022.00	1908819.80	1907276.90
209 Bi # 3	1251982.30	0.85	1405468.50	89.1	60 - 125		1239862.10	1256187.00	1259897.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\207SMPL.D\207SMPL.D#
 Date Acquired: Aug 25 2014 11:29 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345270_1-a
 Misc Info: 3050 1/5
 Vial Number: 4209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001296	0.001296	ug/l	250.46	100.00		0.00	10.00	0.00
11 B #3	0.5796	0.5796	ug/l	17.50	1800.00		2906.96	3063.65	3223.67
23 Na #1	-7.674	-7.674	ug/l	0.89	81000.00		65953.18	65511.68	66203.64
24 Mg #1	0.6494	0.6494	ug/l	2.85	81000.00		2570.25	2483.57	2546.91
27 Al #1	1.48	1.48	ug/l	3.33	81000.00		5741.04	5634.40	5494.27
39 K #2	-7.173	-7.173	ug/l	4.16	81000.00		9839.50	10059.60	10156.33
40 Ca #1	4.005	4.005	ug/l	2.26	81000.00		50364.18	49291.26	50467.92
47 Ti #3	0.01065	0.01065	ug/l	67.89	1620.00		110.00	123.34	110.00
51 V #2	0.03715	0.03715	ug/l	8.80	1800.00		303.34	317.78	323.34
52 Cr #2	0.0294	0.0294	ug/l	23.45	1800.00		403.34	423.34	384.45
55 Mn #3	0.05415	0.05415	ug/l	13.78	1800.00		2503.57	2486.91	2250.20
56 Fe #1	6.884	6.884	ug/l	0.72	81000.00		61502.25	60646.06	61441.93
59 Co #3	-0.0005745	-0.0005745	ug/l	241.95	1800.00		66.67	73.34	36.67
60 Ni #2	0.01159	0.01159	ug/l	71.02	1800.00		50.00	65.56	67.78
63 Cu #2	-0.04214	-0.04214	ug/l	11.72	1800.00		296.67	284.45	270.00
66 Zn #3	0.251	0.251	ug/l	4.85	1800.00		1093.40	1153.40	1113.40
75 As #2	0.01188	0.01188	ug/l	43.35	100.00		16.33	18.00	20.00
78 Se #1	-0.0464	-0.0464	ug/l	18.00	100.00		6.00	8.33	10.33
88 Sr #3	0.006784	0.006784	ug/l	28.60	1800.00		303.35	286.68	380.02
95 Mo #3	-0.01314	-0.01314	ug/l	6.64	1800.00		63.34	60.00	66.67
107 Ag #3	-0.001887	-0.001887	ug/l	41.21	100.00		93.34	100.00	110.00
111 Cd #3	0.001046	0.001046	ug/l	206.31	100.00		13.32	9.99	3.32
118 Sn #3	1.044	1.044	ug/l	0.93	1800.00		8405.64	8532.33	8385.62
121 Sb #3	0.005414	0.005414	ug/l	52.40	100.00		116.67	76.67	70.00
137 Ba #3	0.02309	0.02309	ug/l	11.14	1800.00		140.00	126.67	120.00
202 Hg #3	-0.02182	-0.02182	ug/l	4.79	5.00		57.00	54.67	51.33
205 Tl #3	-0.002927	-0.002927	ug/l	7.28	20.00		120.00	110.00	116.67
208 Pb #3	-0.02262	-0.02262	ug/l	5.40	1800.00		580.02	540.02	630.03
232 Th #3	0.002233	0.002233	ug/l	38.08	#VALUE!		353.35	326.68	393.35
238 U #3	0.0003324	0.0003324	ug/l	61.10	#VALUE!		33.33	50.00	43.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	410093.63	0.62	442436.88	92.7	60 - 125		407189.25	411233.94	411857.69
45 Sc #1	427753.28	0.24	456299.72	93.7	60 - 125		427349.00	426976.72	428934.16
45 Sc #3	704743.69	0.29	765061.25	92.1	60 - 125		702437.06	706148.31	705645.69
74 Ge #1	149396.45	0.28	153441.28	97.4	60 - 125		149585.31	148918.69	149685.36
74 Ge #2	43579.67	0.71	47804.94	91.2	60 - 125		43283.40	43554.09	43901.53
74 Ge #3	214409.92	0.56	224564.78	95.5	60 - 125		213670.28	215784.50	213774.97
89 Y #3	1269621.30	1.06	1302847.50	97.4	60 - 125		1254259.40	1274957.00	1279647.40
115 In #3	1317928.80	0.12	1366177.60	96.5	60 - 125		1318329.50	1319235.60	1316221.30
159 Tb #3	1930592.00	0.72	2052817.90	94.0	60 - 125		1915413.80	1933552.30	1942810.40
209 Bi #3	1295370.80	0.62	1405468.50	92.2	60 - 125		1286247.90	1298706.50	1301157.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\208_QCS.D\208_QCS.D#
 Date Acquired: Aug 25 2014 11:36 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.09 ug/l	17.58	0.10 69.5 - 130	
11 B	19.55 ug/l	2.36	20.00 69.5 - 130	
23 Na	44.66 ug/l	0.82	50.00 69.5 - 130	
24 Mg	57.03 ug/l	0.36	50.00 69.5 - 130	
27 Al	11.06 ug/l	1.99	10.00 69.5 - 130	
39 K	41.64 ug/l	3.27	50.00 69.5 - 130	
40 Ca	57.90 ug/l	0.35	50.00 69.5 - 130	
47 Ti	0.92 ug/l	9.60	1.00 69.5 - 130	
51 V	0.95 ug/l	2.02	1.00 69.5 - 130	
52 Cr	0.99 ug/l	3.02	1.00 69.5 - 130	
55 Mn	1.05 ug/l	2.58	1.00 69.5 - 130	
56 Fe	23.28 ug/l	0.51	20.00 69.5 - 130	
59 Co	0.10 ug/l	6.26	0.10 69.5 - 130	
60 Ni	1.05 ug/l	5.52	1.00 69.5 - 130	
63 Cu	0.96 ug/l	3.01	1.00 69.5 - 130	
66 Zn	4.02 ug/l	2.20	4.00 69.5 - 130	
75 As	0.48 ug/l	2.37	0.50 69.5 - 130	
78 Se	0.47 ug/l	5.15	0.50 69.5 - 130	
88 Sr	0.19 ug/l	3.21	0.20 69.5 - 130	
95 Mo	0.94 ug/l	4.13	1.00 69.5 - 130	
107 Ag	0.20 ug/l	4.47	0.20 69.5 - 130	
111 Cd	0.10 ug/l	5.88	0.10 69.5 - 130	
118 Sn	1.07 ug/l	2.38	1.00 69.5 - 130	
121 Sb	0.95 ug/l	1.29	1.00 69.5 - 130	
137 Ba	0.98 ug/l	4.65	1.00 69.5 - 130	
202 Hg	0.15 ug/l	1.50	0.16 69.5 - 130	
205 Tl	0.19 ug/l	2.07	0.20 69.5 - 130	
208 Pb	0.27 ug/l	3.32	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	407351.69	0.38	442436.88	92.1	60 - 125	
45 Sc	421253.03	0.67	456299.72	92.3	60 - 125	
45 Sc	701984.69	0.59	765061.25	91.8	60 - 125	
74 Ge	147076.64	0.71	153441.28	95.9	60 - 125	
74 Ge	43242.16	0.23	47804.94	90.5	60 - 125	
74 Ge	211673.17	0.85	224564.78	94.3	60 - 125	
89 Y	1259541.80	0.99	1302847.50	96.7	60 - 125	
115 In	1314167.60	1.04	1366177.60	96.2	60 - 125	
159 Tb	1918170.80	0.54	2052817.90	93.4	60 - 125	
209 Bi	1281856.50	0.16	1405468.50	91.2	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\209_CCV.D\209_CCV.D#
 Date Acquired: Aug 25 2014 11:44 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.46 ug/l	1.79	50.00	89.5 - 110		85924.19	87842.55	87099.69
11 B	97.15 ug/l	1.83	100.00	89.5 - 110		134492.89	136507.03	138411.09
23 Na	5250 ug/l	0.29	5000.00	89.5 - 110		17374656.00	17349464.00	17450614.00
24 Mg	5197 ug/l	0.46	5000.00	89.5 - 110		11961871.00	12038548.00	12038029.00
27 Al	524.8 ug/l	1.18	500.00	89.5 - 110		1426317.90	1438494.90	1458993.30
39 K	4939 ug/l	0.76	5000.00	89.5 - 110		1589861.40	1631872.00	1615793.90
40 Ca	5273 ug/l	0.82	5000.00	89.5 - 110		33281346.00	33757144.00	33471106.00
47 Ti	51.46 ug/l	1.03	50.00	89.5 - 110		54516.35	53727.48	54907.27
51 V	49.95 ug/l	0.73	50.00	89.5 - 110		124747.60	126493.38	127191.55
52 Cr	50.01 ug/l	0.41	50.00	89.5 - 110		152473.64	153189.44	153473.36
55 Mn	513 ug/l	0.45	500.00	89.5 - 110		9459795.00	9366417.00	9433871.00
56 Fe	5448 ug/l	0.26	5000.00	89.5 - 110		45300048.00	45128236.00	45030552.00
59 Co	49.45 ug/l	0.22	50.00	89.5 - 110		685999.25	687883.75	688811.50
60 Ni	51.23 ug/l	0.62	50.00	89.5 - 110		58010.28	58531.85	57662.48
63 Cu	50.44 ug/l	0.62	50.00	89.5 - 110		156012.55	157086.09	158126.89
66 Zn	49.49 ug/l	0.57	50.00	89.5 - 110		101274.36	100188.20	100322.58
75 As	50.45 ug/l	0.85	50.00	89.5 - 110		16616.87	16665.91	16855.10
78 Se	51.43 ug/l	0.93	50.00	89.5 - 110		13157.75	13239.48	13347.23
88 Sr	49.83 ug/l	1.89	50.00	89.5 - 110		1208243.60	1219181.50	1238242.00
95 Mo	50.46 ug/l	0.57	50.00	89.5 - 110		193237.28	194286.31	194669.89
107 Ag	48.55 ug/l	0.64	50.00	89.5 - 110		518322.75	523323.59	523867.53
111 Cd	49.56 ug/l	1.32	50.00	89.5 - 110		114531.10	116117.70	114614.69
118 Sn	50.29 ug/l	0.46	50.00	89.5 - 110		366606.19	367264.25	369074.84
121 Sb	49.62 ug/l	0.90	50.00	89.5 - 110		435488.38	433034.69	433901.56
137 Ba	49.97 ug/l	1.62	50.00	89.5 - 110		195511.80	192601.00	191944.50
202 Hg	1.982 ug/l	1.07	2.50	89.5 - 110	Fail	6076.50	6256.58	6216.56
205 Tl	9.764 ug/l	0.71	10.00	89.5 - 110		252209.61	252459.45	254297.11
208 Pb	49.1 ug/l	0.73	50.00	89.5 - 110		1733757.30	1728421.00	1735876.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	406494.56	0.70	442436.88	91.9	60 - 125		408981.41	403407.38	407094.91
45 Sc	428397.41	0.10	456299.72	93.9	60 - 125		428821.38	427935.56	428435.28
45 Sc	716824.06	0.88	765061.25	93.7	60 - 125		723797.19	711400.69	715274.31
74 Ge	148309.39	0.21	153441.28	96.7	60 - 125		148590.86	148360.14	147977.14
74 Ge	43541.07	0.57	47804.94	91.1	60 - 125		43291.17	43789.09	43542.95
74 Ge	214233.08	0.07	224564.78	95.4	60 - 125		214287.27	214070.63	214341.34
89 Y	1262155.50	0.80	1302847.50	96.9	60 - 125		1263067.40	1271722.10	1251677.00
115 In	1298013.60	0.80	1366177.60	95.0	60 - 125		1291642.80	1292482.10	1309915.90
159 Tb	1912531.40	0.55	2052817.90	93.2	60 - 125		1902603.80	1923645.10	1911345.40
209 Bi	1261475.80	0.80	1405468.50	89.8	60 - 125		1272901.30	1257493.40	1254032.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\210_CCB.D\210_CCB.D#
 Date Acquired: Aug 25 2014 11:51 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001945	0.001945	ug/l	148.28	#VALUE!		0.00	10.00	3.33
11 B #3	1.63	1.63	ug/l	10.54	#VALUE!		4764.05	4457.29	4260.58
23 Na #1	-9.782	-9.782	ug/l	1.76	#VALUE!		57536.26	56931.03	57616.36
24 Mg #1	0.08109	0.08109	ug/l	13.90	#VALUE!		1186.74	1170.07	1210.07
27 Al #1	0.005015	0.005015	ug/l	681.75	#VALUE!		1460.09	1536.77	1620.18
39 K #2	-8.853	-8.853	ug/l	4.69	#VALUE!		9389.23	9469.29	9355.92
40 Ca #1	0.4763	0.4763	ug/l	13.09	#VALUE!		27076.54	26539.16	27156.75
47 Ti #3	-0.05389	-0.05389	ug/l	5.88	#VALUE!		46.67	43.33	50.00
51 V #2	-0.01068	-0.01068	ug/l	176.12	#VALUE!		236.67	144.45	196.67
52 Cr #2	-0.01981	-0.01981	ug/l	60.02	#VALUE!		275.56	210.00	268.89
55 Mn #3	0.01403	0.01403	ug/l	46.01	#VALUE!		1620.11	1540.11	1763.47
56 Fe #1	0.7036	0.7036	ug/l	0.08	#VALUE!		9856.21	9772.87	9712.84
59 Co #3	0.0002525	0.0002525	ug/l	147.64	#VALUE!		73.34	70.00	63.34
60 Ni #2	-0.004422	-0.004422	ug/l	96.45	#VALUE!		43.33	46.67	37.78
63 Cu #2	-0.05049	-0.05049	ug/l	8.19	#VALUE!		254.45	267.78	245.56
66 Zn #3	-0.08575	-0.08575	ug/l	18.93	#VALUE!		440.02	456.69	393.35
75 As #2	0.001871	0.001871	ug/l	350.13	#VALUE!		15.67	16.00	12.33
78 Se #1	-0.02346	-0.02346	ug/l	21.56	#VALUE!		15.00	12.33	14.00
88 Sr #3	0.001964	0.001964	ug/l	30.04	#VALUE!		196.67	216.67	186.67
95 Mo #3	0.02225	0.02225	ug/l	40.54	#VALUE!		233.34	163.34	200.01
107 Ag #3	0.0005168	0.0005168	ug/l	465.36	#VALUE!		126.67	150.01	100.00
111 Cd #3	0.0005981	0.0005981	ug/l	361.31	#VALUE!		3.28	6.63	13.29
118 Sn #3	0.1051	0.1051	ug/l	7.02	#VALUE!		1426.77	1423.43	1536.78
121 Sb #3	0.02025	0.02025	ug/l	5.40	#VALUE!		226.67	213.34	210.01
137 Ba #3	0.008056	0.008056	ug/l	13.58	#VALUE!		66.67	73.34	66.67
202 Hg #3	0.006996	0.006996	ug/l	30.00	#VALUE!		145.00	145.34	133.34
205 Tl #3	-0.002988	-0.002988	ug/l	8.34	#VALUE!		113.34	106.67	116.67
208 Pb #3	-0.02117	-0.02117	ug/l	5.64	#VALUE!		663.36	630.03	583.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	406960.66	0.45	442436.88	92.0	60 - 125		408065.69	407986.75	404829.47
45 Sc #1	416193.88	0.73	456299.72	91.2	60 - 125		419478.59	415641.53	413461.50
45 Sc #3	692234.13	0.43	765061.25	90.5	60 - 125		689240.75	692215.25	695246.38
74 Ge #1	145278.44	0.56	153441.28	94.7	60 - 125		145884.91	144354.41	145595.98
74 Ge #2	43268.57	1.05	47804.94	90.5	60 - 125		42863.58	43185.34	43756.77
74 Ge #3	209946.95	0.25	224564.78	93.5	60 - 125		209613.77	210548.28	209678.81
89 Y #3	1242693.30	0.86	1302847.50	95.4	60 - 125		1231599.60	1252920.10	1243559.80
115 In #3	1300669.10	0.74	1366177.60	95.2	60 - 125		1298027.50	1292665.90	1311314.30
159 Tb #3	1901913.80	1.34	2052817.90	92.6	60 - 125		1883482.60	1931100.40	1891157.90
209 Bi #3	1274961.60	0.55	1405468.50	90.7	60 - 125		1273748.40	1282543.80	1268592.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\211SMPL.D\211SMPL.D#
 Date Acquired: Aug 25 2014 11:59 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104242-a-1-e
 Misc Info: 200.7
 Vial Number: 4212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 100.00
 Autodil Factor: Undiluted
 Final Dil Factor: 100.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.1955	0.001955	ug/l	55.40	100.00		3.33	6.67	3.33
11 B # 3	91.51	0.9151	ug/l	11.20	1800.00		3303.70	3497.07	3667.10
23 Na # 1	-642.8	-6.428	ug/l	5.55	81000.00		68913.28	69057.20	67291.17
24 Mg # 1	216.9	2.169	ug/l	1.55	81000.00		6001.09	5854.37	5857.72
27 Al # 1	43.38	0.4338	ug/l	13.48	81000.00		2520.24	2753.60	2810.28
39 K # 2	-833.7	-8.337	ug/l	10.32	81000.00		9509.29	9842.80	9329.21
40 Ca # 1	607.5	6.075	ug/l	1.20	81000.00		61620.75	61222.70	62416.33
47 Ti # 3	-4.649	-0.04649	ug/l	38.59	1620.00		66.67	33.33	63.34
51 V # 2	-0.1452	-0.001452	ug/l	499.66	1800.00		215.56	233.34	197.78
52 Cr # 2	-1.801	-0.01801	ug/l	17.12	1800.00		248.89	266.67	254.45
55 Mn # 3	-0.2793	-0.002793	ug/l	75.98	1800.00		1390.09	1323.42	1343.42
56 Fe # 1	34.55	0.3455	ug/l	1.62	81000.00		6981.64	6851.47	6958.20
59 Co # 3	-0.1496	-0.001496	ug/l	64.69	1800.00		30.00	53.34	53.34
60 Ni # 2	10.37	0.1037	ug/l	8.78	1800.00		152.22	168.89	171.11
63 Cu # 2	2291	22.91	ug/l	0.15	1800.00		70900.60	71006.45	71241.88
66 Zn # 3	-3.08	-0.0308	ug/l	53.77	1800.00		556.69	503.36	573.36
75 As # 2	-0.8941	-0.008941	ug/l	5.90	100.00		11.00	11.00	11.33
78 Se # 1	-4.438	-0.04438	ug/l	22.37	100.00		8.67	11.00	6.00
88 Sr # 3	7.305	0.07305	ug/l	5.18	1800.00		2003.50	1900.15	1850.15
95 Mo # 3	0.04465	0.0004465	ug/l	1302.80	1800.00		140.00	110.00	96.67
107 Ag # 3	816	8.16	ug/l	1.04	100.00		89022.17	87635.41	89015.35
111 Cd # 3	0.1545	0.001545	ug/l	92.82	100.00		13.30	9.98	6.65
118 Sn # 3	7.676	0.07676	ug/l	8.72	1800.00		1220.09	1320.10	1250.09
121 Sb # 3	1.128	0.01128	ug/l	24.11	100.00		160.01	143.34	113.34
137 Ba # 3	0.4805	0.004805	ug/l	63.98	1800.00		53.34	70.00	46.67
202 Hg # 3	-0.2402	-0.002402	ug/l	55.25	5.00		116.34	112.67	110.33
205 Tl # 3	-0.4946	-0.004946	ug/l	8.69	20.00		63.34	50.00	73.34
208 Pb # 3	0.1088	0.001088	ug/l	136.03	1800.00		1450.07	1413.40	1373.40
232 Th # 3	3.834	0.03834	ug/l	10.23	#VALUE!		1783.49	1836.83	1570.13
238 U # 3	0.07112	0.0007112	ug/l	30.79	#VALUE!		63.34	46.67	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	405024.41	1.29	442436.88	91.5	60 - 125		399041.34	407395.09	408636.75
45 Sc # 1	418183.69	0.36	456299.72	91.6	60 - 125		418992.53	416430.47	419128.09
45 Sc # 3	695325.38	0.56	765061.25	90.9	60 - 125		691999.50	694389.25	699587.25
74 Ge # 1	146225.02	0.20	153441.28	95.3	60 - 125		146107.77	146003.70	146563.58
74 Ge # 2	43217.66	0.18	47804.94	90.4	60 - 125		43198.70	43150.86	43303.40
74 Ge # 3	212104.75	0.94	224564.78	94.5	60 - 125		211063.50	210851.84	214398.88
89 Y # 3	1244166.60	0.88	1302847.50	95.5	60 - 125		1237789.60	1237856.50	1256854.00
115 In # 3	1309111.90	0.28	1366177.60	95.8	60 - 125		1304876.80	1310557.30	1311901.50
159 Tb # 3	1910559.50	1.11	2052817.90	93.1	60 - 125		1899158.80	1897542.30	1934977.60
209 Bi # 3	1276964.60	0.52	1405468.50	90.9	60 - 125		1274303.50	1272109.60	1284480.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures
 0 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\212_CCV.D\212_CCV.D#
 Date Acquired: Aug 25 2014 12:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.03 ug/l	1.25	50.00	89.5 - 110		86610.10	85492.25	84605.03
11 B	95.55 ug/l	1.16	100.00	89.5 - 110		131717.92	134650.94	133425.19
23 Na	5145 ug/l	0.48	5000.00	89.5 - 110		16883168.00	16864164.00	16961648.00
24 Mg	5098 ug/l	0.74	5000.00	89.5 - 110		11685761.00	11732174.00	11638733.00
27 Al	516.2 ug/l	0.17	500.00	89.5 - 110		1413510.00	1396649.00	1407086.00
39 K	4805 ug/l	1.14	5000.00	89.5 - 110		1554220.00	1568134.90	1599943.30
40 Ca	5168 ug/l	0.36	5000.00	89.5 - 110		32671160.00	32547126.00	32476792.00
47 Ti	51.02 ug/l	0.85	50.00	89.5 - 110		52995.02	53413.18	53734.05
51 V	48.92 ug/l	0.08	50.00	89.5 - 110		123643.41	123637.88	124588.86
52 Cr	48.97 ug/l	0.40	50.00	89.5 - 110		150246.94	150446.39	150433.89
55 Mn	504.8 ug/l	0.50	500.00	89.5 - 110		9197342.00	9306148.00	9213157.00
56 Fe	5309 ug/l	0.85	5000.00	89.5 - 110		43402920.00	43679428.00	43834652.00
59 Co	48.74 ug/l	0.67	50.00	89.5 - 110		670875.13	679842.63	675598.00
60 Ni	49.79 ug/l	0.35	50.00	89.5 - 110		56704.06	56505.60	56677.30
63 Cu	48.65 ug/l	0.79	50.00	89.5 - 110		152192.66	152457.56	151372.80
66 Zn	49.41 ug/l	0.74	50.00	89.5 - 110		99786.48	99977.38	100557.19
75 As	49.7 ug/l	0.23	50.00	89.5 - 110		16530.46	16427.71	16599.20
78 Se	50.42 ug/l	1.03	50.00	89.5 - 110		13007.32	12831.86	12993.31
88 Sr	48.73 ug/l	0.87	50.00	89.5 - 110		1194081.60	1200264.30	1190306.50
95 Mo	49.03 ug/l	0.85	50.00	89.5 - 110		188820.39	189697.13	189255.63
107 Ag	47.34 ug/l	1.30	50.00	89.5 - 110		508422.97	515609.78	508207.53
111 Cd	48.78 ug/l	0.30	50.00	89.5 - 110		112448.23	113954.57	114709.50
118 Sn	49.25 ug/l	0.91	50.00	89.5 - 110		361892.75	360046.66	362127.28
121 Sb	48.72 ug/l	1.16	50.00	89.5 - 110		429118.19	427532.69	427023.63
137 Ba	48.66 ug/l	1.47	50.00	89.5 - 110		190052.89	188998.13	187930.88
202 Hg	2.433 ug/l	0.75	2.50	89.5 - 110		7532.13	7652.19	7547.14
205 Tl	9.52 ug/l	1.29	10.00	89.5 - 110		247360.41	247976.77	246111.88
208 Pb	47.93 ug/l	1.82	50.00	89.5 - 110		1695345.80	1689865.50	1698976.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref. Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	403465.19	1.10	442436.88	91.2	60 - 125		403172.06	408034.41	399189.06
45 Sc	424860.53	0.44	456299.72	93.1	60 - 125		426705.19	422928.50	424947.88
45 Sc	709719.75	0.22	765061.25	92.8	60 - 125		710047.50	711099.56	708012.19
74 Ge	147810.20	0.36	153441.28	96.3	60 - 125		147197.52	148176.33	148056.75
74 Ge	43684.00	0.42	47804.94	91.4	60 - 125		43614.18	43546.31	43891.50
74 Ge	213528.53	0.36	224564.78	95.1	60 - 125		213732.94	214166.14	212686.50
89 Y	1261962.10	0.87	1302847.50	96.9	60 - 125		1249391.50	1269598.40	1266896.90
115 In	1302952.00	0.92	1366177.60	95.4	60 - 125		1291766.30	1301580.60	1315509.00
159 Tb	1916560.80	1.58	2052817.90	93.4	60 - 125		1900683.50	1951445.80	1897553.30
209 Bi	1260233.40	0.95	1405468.50	89.7	60 - 125		1248494.10	1259810.30	1272395.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\213_CCB.D\213_CCB.D#
 Date Acquired: Aug 25 2014 12:14 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002595	0.002595	ug/l	42.47	#VALUE!		3.33	6.67	6.67
11 B #3	1.753	1.753	ug/l	2.60	#VALUE!		4707.34	4617.33	4593.99
23 Na #1	-9.732	-9.732	ug/l	1.39	#VALUE!		56978.07	57512.87	56740.55
24 Mg #1	-0.05446	-0.05446	ug/l	48.49	#VALUE!		893.38	926.72	813.37
27 Al #1	-0.112	-0.112	ug/l	8.81	#VALUE!		1226.74	1193.41	1233.41
39 K #2	-9.245	-9.245	ug/l	9.08	#VALUE!		9112.46	9389.24	8999.08
40 Ca #1	0.1702	0.1702	ug/l	49.95	#VALUE!		24920.27	25297.45	24309.49
47 Ti #3	-0.03182	-0.03182	ug/l	57.61	#VALUE!		56.67	90.01	60.00
51 V #2	-0.01064	-0.01064	ug/l	50.69	#VALUE!		202.23	186.67	182.22
52 Cr #2	-0.01635	-0.01635	ug/l	5.43	#VALUE!		254.45	256.67	265.56
55 Mn #3	0.02104	0.02104	ug/l	27.26	#VALUE!		1653.45	1850.14	1796.81
56 Fe #1	0.5154	0.5154	ug/l	10.86	#VALUE!		8612.40	8178.71	7808.51
59 Co #3	0.00164	0.00164	ug/l	76.10	#VALUE!		73.34	83.34	106.67
60 Ni #2	-0.005597	-0.005597	ug/l	99.91	#VALUE!		46.67	40.00	35.56
63 Cu #2	-0.05684	-0.05684	ug/l	13.90	#VALUE!		256.67	225.56	217.78
66 Zn #3	-0.06994	-0.06994	ug/l	55.05	#VALUE!		373.35	506.69	503.35
75 As #2	0.001387	0.001387	ug/l	509.44	#VALUE!		14.67	16.33	12.00
78 Se #1	-0.02749	-0.02749	ug/l	33.82	#VALUE!		12.33	15.33	10.67
88 Sr #3	0.002316	0.002316	ug/l	41.30	#VALUE!		186.67	230.01	213.34
95 Mo #3	0.03383	0.03383	ug/l	13.87	#VALUE!		240.01	263.34	226.68
107 Ag #3	-4.55E-006	-4.55E-006	ug/l	31451.00	#VALUE!		103.34	133.34	123.34
111 Cd #3	0.001085	0.001085	ug/l	202.76	#VALUE!		9.95	3.28	13.28
118 Sn #3	0.1115	0.1115	ug/l	10.39	#VALUE!		1493.44	1603.46	1430.10
121 Sb #3	0.01962	0.01962	ug/l	15.99	#VALUE!		243.34	193.34	196.67
137 Ba #3	0.00404	0.00404	ug/l	84.43	#VALUE!		53.34	66.67	40.00
202 Hg #3	0.008289	0.008289	ug/l	18.42	#VALUE!		141.67	145.67	149.33
205 Tl #3	-0.004812	-0.004812	ug/l	10.88	#VALUE!		76.67	70.00	50.00
208 Pb #3	-0.02068	-0.02068	ug/l	1.78	#VALUE!		660.03	633.36	640.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	404860.53	0.45	442436.88	91.5	60 - 125		405327.94	402832.75	406420.91
45 Sc #1	412977.41	0.64	456299.72	90.5	60 - 125		409970.81	414867.75	414093.63
45 Sc #3	690123.56	0.36	765061.25	90.2	60 - 125		690221.06	687567.69	692581.81
74 Ge #1	145458.78	0.18	153441.28	94.8	60 - 125		145230.19	145742.91	145403.27
74 Ge #2	42751.80	1.50	47804.94	89.4	60 - 125		42092.93	42785.50	43376.96
74 Ge #3	209878.14	0.18	224564.78	93.5	60 - 125		209954.92	209469.20	210210.34
89 Y #3	1252493.50	0.71	1302847.50	96.1	60 - 125		1260207.30	1242728.80	1254544.50
115 In #3	1300091.50	0.33	1366177.60	95.2	60 - 125		1303400.90	1301696.90	1295176.80
159 Tb #3	1907470.00	0.61	2052817.90	92.9	60 - 125		1915234.10	1913115.40	1894060.40
209 Bi #3	1280473.60	0.06	1405468.50	91.1	60 - 125		1279802.10	1280221.90	1281397.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\214SMPL.D\214SMPL.D#
 Date Acquired: Aug 25 2014 12:21 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345316_1-a
 Misc Info: 3010 1/5
 Vial Number: 3412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001317	0.001317	ug/l	143.51	100.00		0.00	3.33	6.67
11 B # 3	1.341	1.341	ug/l	3.89	1800.00		4080.52	3997.16	4177.21
23 Na # 1	-8.428	-8.428	ug/l	1.56	81000.00		61190.53	61100.26	61973.10
24 Mg # 1	0.2698	0.2698	ug/l	7.03	81000.00		1643.45	1560.12	1613.45
27 Al # 1	1.071	1.071	ug/l	9.24	81000.00		4177.25	4237.25	4667.38
39 K # 2	-6.47	-6.47	ug/l	5.24	81000.00		9752.77	10042.93	10096.35
40 Ca # 1	3.926	3.926	ug/l	1.13	81000.00		47840.86	48285.40	47850.92
47 Ti # 3	-0.0291	-0.0291	ug/l	72.34	1620.00		46.67	83.34	86.67
51 V # 2	0.0923	0.0923	ug/l	7.71	1800.00		432.23	427.79	464.45
52 Cr # 2	0.02937	0.02937	ug/l	25.19	1800.00		383.34	374.45	420.01
55 Mn # 3	0.02237	0.02237	ug/l	34.53	1800.00		1853.48	1640.13	1880.16
56 Fe # 1	0.6184	0.6184	ug/l	9.33	81000.00		9512.67	9042.44	8605.58
59 Co # 3	-0.002114	-0.002114	ug/l	22.65	1800.00		36.67	43.34	30.00
60 Ni # 2	0.09415	0.09415	ug/l	15.57	1800.00		161.11	132.22	157.78
63 Cu # 2	-0.05185	-0.05185	ug/l	13.07	1800.00		234.45	233.34	272.23
66 Zn # 3	0.1662	0.1662	ug/l	13.84	1800.00		973.39	930.05	883.38
75 As # 2	0.04208	0.04208	ug/l	6.51	100.00		26.33	28.33	27.33
78 Se # 1	-0.02966	-0.02966	ug/l	36.21	100.00		15.00	9.67	11.67
88 Sr # 3	0.001992	0.001992	ug/l	75.75	1800.00		183.34	173.34	240.01
95 Mo # 3	-0.0007687	-0.0007687	ug/l	630.68	1800.00		93.34	103.34	130.00
107 Ag # 3	0.001276	0.001276	ug/l	41.40	100.00		136.67	133.34	126.67
111 Cd # 3	0.0001719	0.0001719	ug/l	1460.20	100.00		-0.02	9.98	9.97
118 Sn # 3	0.1248	0.1248	ug/l	3.35	1800.00		1553.46	1583.45	1623.46
121 Sb # 3	0.009508	0.009508	ug/l	39.45	100.00		143.34	83.34	136.67
137 Ba # 3	0.006522	0.006522	ug/l	42.07	1800.00		70.00	50.00	66.67
202 Hg # 3	-0.01042	-0.01042	ug/l	9.64	5.00		87.00	92.33	87.00
205 Tl # 3	-0.004899	-0.004899	ug/l	17.81	20.00		86.67	43.33	60.00
208 Pb # 3	-0.02351	-0.02351	ug/l	2.44	1800.00		560.02	546.69	533.35
232 Th # 3	0.05811	0.05811	ug/l	3.95	#VALUE!		2530.29	2480.28	2383.60
238 U # 3	0.0004701	0.0004701	ug/l	19.35	#VALUE!		50.00	46.67	43.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	406058.03	0.45	442436.88	91.8	60 - 125		406245.19	404144.72	407784.16
45 Sc # 1	414346.63	0.11	456299.72	90.8	60 - 125		414002.94	414198.50	414838.47
45 Sc # 3	693617.56	1.25	765061.25	90.7	60 - 125		684440.44	694806.38	701605.88
74 Ge # 1	144057.66	0.23	153441.28	93.9	60 - 125		144284.80	144202.33	143685.81
74 Ge # 2	42377.63	0.83	47804.94	88.6	60 - 125		42001.56	42430.32	42701.00
74 Ge # 3	209965.92	0.44	224564.78	93.5	60 - 125		209364.08	211030.81	209502.86
89 Y # 3	1231999.40	0.18	1302847.50	94.6	60 - 125		1234570.80	1230726.50	1230700.80
115 In # 3	1284925.30	0.55	1366177.60	94.1	60 - 125		1284135.40	1278334.60	1292305.80
159 Tb # 3	1913745.80	1.26	2052817.90	93.2	60 - 125		1887573.30	1918440.80	1935223.50
209 Bi # 3	1266456.40	0.56	1405468.50	90.1	60 - 125		1258494.00	1268960.90	1271914.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\215SMPL.D\215SMPL.D#
 Date Acquired: Aug 25 2014 12:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345316_2-a
 Misc Info: 3010 1/5
 Vial Number: 3501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	21.05	21.05	ug/l	1.30	100.00		38922.53	38110.84	37970.61
11 B # 3	84.87	84.87	ug/l	0.65	1800.00		123615.59	123386.69	124363.23
23 Na # 1	39940	39940	ug/l	0.87	81000.00		131926900.00	133523330.00	133758210.00
24 Mg # 1	2285	2285	ug/l	0.31	81000.00		5332122.50	5358799.00	5318536.50
27 Al # 1	2255	2255	ug/l	0.72	81000.00		6261510.00	6301108.00	6195730.00
39 K # 2	2178	2178	ug/l	0.13	81000.00		705993.13	710030.25	716210.19
40 Ca # 1	2372	2372	ug/l	0.35	81000.00		15292001.00	15279410.00	15151193.00
47 Ti # 3	42.26	42.26	ug/l	2.62	1620.00		46304.44	44727.25	45462.23
51 V # 2	43.77	43.77	ug/l	0.48	1800.00		108773.68	108912.38	110737.20
52 Cr # 2	43.92	43.92	ug/l	1.05	1800.00		133613.67	132054.34	133674.44
55 Mn # 3	219.8	219.8	ug/l	1.17	1800.00		4067083.80	3969133.80	3990552.50
56 Fe # 1	2354	2354	ug/l	0.38	81000.00		19693134.00	19697718.00	19769694.00
59 Co # 3	21.49	21.49	ug/l	1.13	1800.00		300208.34	297143.44	293192.72
60 Ni # 2	44.59	44.59	ug/l	0.95	1800.00		50196.53	49845.58	50105.13
63 Cu # 2	43.21	43.21	ug/l	0.52	1800.00		132938.55	133299.75	133636.55
66 Zn # 3	41.48	41.48	ug/l	0.31	1800.00		83824.14	84041.78	83636.39
75 As # 2	43.45	43.45	ug/l	0.55	100.00		14223.19	14183.50	14354.30
78 Se # 1	44.05	44.05	ug/l	1.01	100.00		11388.23	11244.48	11161.76
88 Sr # 3	41.83	41.83	ug/l	1.49	1800.00		1037103.20	1029601.90	1013151.90
95 Mo # 3	43	43	ug/l	0.77	1800.00		166837.98	164116.06	163822.78
107 Ag # 3	20.89	20.89	ug/l	1.14	100.00		225740.95	222264.30	223952.55
111 Cd # 3	21.21	21.21	ug/l	0.49	100.00		49751.45	49146.93	48475.44
118 Sn # 3	86.99	86.99	ug/l	0.43	1800.00		636543.88	634683.19	629630.38
121 Sb # 3	21.34	21.34	ug/l	0.50	100.00		187716.92	187778.64	183119.03
137 Ba # 3	41.82	41.82	ug/l	0.39	1800.00		163001.78	161308.09	159797.00
202 Hg # 3	2.001	2.001	ug/l	0.50	5.00		6171.54	6250.23	6252.26
205 Tl # 3	16.4	16.4	ug/l	1.21	20.00		426381.75	420651.75	423886.28
208 Pb # 3	20.74	20.74	ug/l	1.54	1800.00		736505.81	729233.13	725759.50
232 Th # 3	22.19	22.19	ug/l	0.16	#VALUE!		819529.81	820441.31	816646.94
238 U # 3	21.66	21.66	ug/l	0.39	#VALUE!		835773.75	833040.00	827678.00

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	421040.50	0.23	442436.88	95.2	60 - 125		421159.22	421923.41	420038.84
45 Sc # 1	432874.00	0.16	456299.72	94.9	60 - 125		433383.50	433146.50	432092.03
45 Sc # 3	730076.19	1.28	765061.25	95.4	60 - 125		721142.19	729316.56	739769.75
74 Ge # 1	147196.52	0.45	153441.28	95.9	60 - 125		147102.53	147896.80	146590.22
74 Ge # 2	43108.94	0.78	47804.94	90.2	60 - 125		42766.58	43118.70	43441.54
74 Ge # 3	212775.73	0.12	224564.78	94.8	60 - 125		213036.72	212544.00	212746.50
89 Y # 3	1263269.00	0.90	1302847.50	97.0	60 - 125		1254619.00	1276147.80	1259040.10
115 In # 3	1294358.80	0.98	1366177.60	94.7	60 - 125		1303656.30	1299539.90	1279880.10
159 Tb # 3	1907267.30	0.81	2052817.90	92.9	60 - 125		1893286.90	1904737.00	1923777.50
209 Bi # 3	1234022.10	0.11	1405468.50	87.8	60 - 125		1235107.30	1234399.90	1232559.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\216SMPL.D\216SMPL.D#
 Date Acquired: Aug 25 2014 12:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lb2 680-345138_2-c
 Misc Info: 3010 1/5
 Vial Number: 3502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001265	0.001265	ug/l	146.17	100.00		0.00	3.33	6.67
11 B # 3	1.876	1.876	ug/l	7.74	1800.00		4750.70	4894.07	5187.50
23 Na # 1	38130	38130	ug/l	0.19	81000.00		125351410.00	124600890.00	124873620.00
24 Mg # 1	0.4832	0.4832	ug/l	12.14	81000.00		2273.54	2156.85	1990.16
27 Al # 1	1.363	1.363	ug/l	1.08	81000.00		5264.20	5264.20	5304.21
39 K # 2	-3.401	-3.401	ug/l	16.13	81000.00		10803.38	11223.64	11120.20
40 Ca # 1	7.988	7.988	ug/l	1.08	81000.00		75945.97	74510.24	74369.91
47 Ti # 3	0.01917	0.01917	ug/l	188.16	1620.00		156.67	133.34	83.34
51 V # 2	0.0859	0.0859	ug/l	8.62	1800.00		430.01	408.90	452.23
52 Cr # 2	0.06944	0.06944	ug/l	11.71	1800.00		508.90	541.12	501.12
55 Mn # 3	0.03523	0.03523	ug/l	20.84	1800.00		1896.82	2010.17	2200.19
56 Fe # 1	1.212	1.212	ug/l	2.70	81000.00		14559.37	14105.69	13918.94
59 Co # 3	-0.001316	-0.001316	ug/l	53.83	1800.00		53.34	36.67	53.33
60 Ni # 2	0.2687	0.2687	ug/l	10.08	1800.00		355.56	366.67	316.67
63 Cu # 2	-0.03672	-0.03672	ug/l	5.95	1800.00		287.78	291.12	307.78
66 Zn # 3	0.2555	0.2555	ug/l	0.80	1800.00		1100.06	1110.06	1126.74
75 As # 2	0.03644	0.03644	ug/l	11.59	100.00		26.67	26.00	24.67
78 Se # 1	-0.0293	-0.0293	ug/l	12.93	100.00		12.00	13.33	11.67
88 Sr # 3	0.02244	0.02244	ug/l	10.03	1800.00		643.37	760.04	683.37
95 Mo # 3	0.01092	0.01092	ug/l	47.55	1800.00		173.34	150.01	136.67
107 Ag # 3	-0.0009183	-0.0009183	ug/l	129.91	100.00		110.00	96.67	120.00
111 Cd # 3	-0.0003221	-0.0003221	ug/l	254.33	100.00		3.30	6.63	6.64
118 Sn # 3	0.1823	0.1823	ug/l	6.85	1800.00		1976.84	2126.85	1910.16
121 Sb # 3	0.01193	0.01193	ug/l	18.80	100.00		146.67	160.01	120.00
137 Ba # 3	0.08251	0.08251	ug/l	10.50	1800.00		336.68	333.35	390.02
202 Hg # 3	-0.00503	-0.00503	ug/l	60.56	5.00		106.67	94.00	113.00
205 Tl # 3	0.01274	0.01274	ug/l	6.36	20.00		536.69	503.36	510.03
208 Pb # 3	-0.02182	-0.02182	ug/l	5.68	1800.00		553.36	643.36	610.03
232 Th # 3	0.1726	0.1726	ug/l	10.00	#VALUE!		7185.21	6501.57	6024.70
238 U # 3	0.001589	0.001589	ug/l	8.84	#VALUE!		93.34	83.34	86.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	416155.34	1.13	442436.88	94.1	60 - 125		411168.75	420542.97	416754.31
45 Sc # 1	425743.06	0.44	456299.72	93.3	60 - 125		427899.19	424702.69	424627.34
45 Sc # 3	711781.31	0.39	765061.25	93.0	60 - 125		708694.44	713994.06	712655.31
74 Ge # 1	145694.61	0.66	153441.28	95.0	60 - 125		146520.06	144642.78	145921.00
74 Ge # 2	42835.28	1.41	47804.94	89.6	60 - 125		42292.15	42730.96	43482.73
74 Ge # 3	211189.36	1.05	224564.78	94.0	60 - 125		208806.38	211573.41	213188.30
89 Y # 3	1244602.90	1.22	1302847.50	95.5	60 - 125		1227349.40	1250321.30	1256138.00
115 In # 3	1285897.60	1.34	1366177.60	94.1	60 - 125		1270788.40	1304712.10	1282192.40
159 Tb # 3	1900131.30	0.87	2052817.90	92.6	60 - 125		1885520.80	1896912.00	1917961.00
209 Bi # 3	1224230.30	0.88	1405468.50	87.1	60 - 125		1217476.80	1218506.10	1236708.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\217SMPL.D\217SMPL.D#
 Date Acquired: Aug 25 2014 12:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104392-a-1-g
 Misc Info: 3010 1/5
 Vial Number: 3503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006632	0.0006632	ug/l	324.19	100.00		0.00	6.67	0.00
11 B # 3	2.947	2.947	ug/l	4.92	1800.00		6337.87	6654.65	6344.52
23 Na # 1	31460	31460	ug/l	1.08	81000.00		103006090.00	101760690.00	101467570.00
24 Mg # 1	145.8	145.8	ug/l	0.78	81000.00		334429.81	331518.59	331554.84
27 Al # 1	6.309	6.309	ug/l	0.59	81000.00		18629.42	18546.01	18542.65
39 K # 2	33.49	33.49	ug/l	4.47	81000.00		22901.05	23138.09	22136.85
40 Ca # 1	2667	2667	ug/l	0.73	81000.00		16758608.00	16591441.00	16695313.00
47 Ti # 3	0.002401	0.002401	ug/l	727.61	1620.00		93.34	126.67	100.00
51 V # 2	0.1104	0.1104	ug/l	14.65	1800.00		514.46	446.68	506.68
52 Cr # 2	0.102	0.102	ug/l	4.63	1800.00		612.24	630.02	596.68
55 Mn # 3	3.031	3.031	ug/l	1.70	1800.00		56452.77	56884.17	55971.37
56 Fe # 1	81.8	81.8	ug/l	0.76	81000.00		674788.69	668652.38	669966.38
59 Co # 3	0.03876	0.03876	ug/l	7.98	1800.00		610.03	630.03	556.69
60 Ni # 2	0.3393	0.3393	ug/l	2.10	1800.00		418.90	435.57	416.68
63 Cu # 2	-0.004957	-0.004957	ug/l	94.11	1800.00		404.45	381.12	387.79
66 Zn # 3	113.2	113.2	ug/l	1.17	1800.00		228501.30	226601.48	225504.92
75 As # 2	0.06448	0.06448	ug/l	27.98	100.00		41.33	31.33	31.67
78 Se # 1	-0.02525	-0.02525	ug/l	26.63	100.00		14.33	11.33	14.33
88 Sr # 3	3.449	3.449	ug/l	0.75	1800.00		84512.01	84449.22	84213.77
95 Mo # 3	0.09234	0.09234	ug/l	10.34	1800.00		500.02	460.02	433.35
107 Ag # 3	-0.003263	-0.003263	ug/l	102.64	100.00		66.67	60.00	126.67
111 Cd # 3	0.0584	0.0584	ug/l	15.93	100.00		116.56	146.57	159.91
118 Sn # 3	0.1496	0.1496	ug/l	3.61	1800.00		1773.48	1716.80	1826.82
121 Sb # 3	0.02726	0.02726	ug/l	9.23	100.00		290.01	283.35	253.34
137 Ba # 3	1.191	1.191	ug/l	3.15	1800.00		4760.80	4464.06	4617.42
202 Hg # 3	-0.01214	-0.01214	ug/l	33.96	5.00		83.67	95.67	71.67
205 Tl # 3	0.0006523	0.0006523	ug/l	127.93	20.00		210.01	226.68	186.67
208 Pb # 3	0.5555	0.5555	ug/l	1.39	1800.00		20922.81	21176.05	21006.10
232 Th # 3	0.0609	0.0609	ug/l	0.52	#VALUE!		2533.62	2540.28	2500.28
238 U # 3	0.005339	0.005339	ug/l	11.69	#VALUE!		263.34	216.67	223.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	415397.06	0.64	442436.88	93.9	60 - 125		413899.47	413815.50	418476.13
45 Sc # 1	421489.16	0.28	456299.72	92.4	60 - 125		420147.13	422025.91	422294.44
45 Sc # 3	710410.75	0.82	765061.25	92.9	60 - 125		709023.75	705426.88	716781.63
74 Ge # 1	145350.25	0.55	153441.28	94.7	60 - 125		146276.95	144827.45	144946.38
74 Ge # 2	42683.88	0.62	47804.94	89.3	60 - 125		42465.93	42978.30	42607.43
74 Ge # 3	211926.38	0.86	224564.78	94.4	60 - 125		212376.47	209917.50	213485.19
89 Y # 3	1257091.50	0.57	1302847.50	96.5	60 - 125		1250566.50	1255942.80	1264765.30
115 In # 3	1289151.80	0.96	1366177.60	94.4	60 - 125		1285141.80	1279321.10	1302992.30
159 Tb # 3	1919217.90	0.78	2052817.90	93.5	60 - 125		1920545.00	1903656.00	1933452.90
209 Bi # 3	1243812.60	0.60	1405468.50	88.5	60 - 125		1250733.80	1244842.10	1235862.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures
 0 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\218SMPL.D\218SMPL.D#
 Date Acquired: Aug 25 2014 12:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104392-a-1-gSD
 Misc Info: 3010 1/25
 Vial Number: 3504
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003261	0.0006522	ug/l	326.74	100.00		6.67	0.00	0.00
11 B # 3	5.875	1.175	ug/l	4.36	1800.00		3980.51	3957.15	3820.48
23 Na # 1	28295	5659	ug/l	0.80	81000.00		18307790.00	18373628.00	18484424.00
24 Mg # 1	131.3	26.26	ug/l	1.41	81000.00		59679.55	61454.98	60559.00
27 Al # 1	8.5	1.7	ug/l	4.35	81000.00		5894.41	6264.57	6197.82
39 K # 2	-6.995	-1.399	ug/l	71.48	81000.00		12137.56	11870.73	11557.22
40 Ca # 1	2418	483.6	ug/l	0.57	81000.00		3021095.30	3049692.80	3040297.80
47 Ti # 3	-0.2974	-0.05948	ug/l	28.92	1620.00		43.33	60.00	23.33
51 V # 2	0.0847	0.01694	ug/l	66.12	1800.00		293.34	241.12	254.45
52 Cr # 2	-0.020045	-0.004009	ug/l	157.40	1800.00		310.01	313.34	278.89
55 Mn # 3	2.9315	0.5863	ug/l	4.89	1800.00		11787.36	12254.33	11857.47
56 Fe # 1	74.2	14.84	ug/l	1.08	81000.00		124048.09	124688.76	125849.52
59 Co # 3	0.028165	0.005633	ug/l	36.27	1800.00		123.34	170.01	133.34
60 Ni # 2	0.4422	0.08844	ug/l	13.18	1800.00		147.78	161.11	134.45
63 Cu # 2	-0.21475	-0.04295	ug/l	24.59	1800.00		311.12	247.78	282.23
66 Zn # 3	110.8	22.16	ug/l	2.52	1800.00		44434.24	43465.26	45934.71
75 As # 2	0.05705	0.01141	ug/l	55.13	100.00		20.00	16.00	17.67
78 Se # 1	-0.20825	-0.04165	ug/l	15.06	100.00		11.00	8.67	8.00
88 Sr # 3	3.2565	0.6513	ug/l	2.66	1800.00		15767.31	15910.80	16114.27
95 Mo # 3	-0.00842	-0.001684	ug/l	255.05	1800.00		116.67	86.67	120.00
107 Ag # 3	-0.016445	-0.003289	ug/l	39.37	100.00		86.67	70.00	100.00
111 Cd # 3	0.031205	0.006241	ug/l	77.89	100.00		33.31	19.98	9.97
118 Sn # 3	0.41185	0.08237	ug/l	12.95	1800.00		1250.09	1356.76	1313.43
121 Sb # 3	0.029775	0.005955	ug/l	45.06	100.00		80.00	76.67	120.00
137 Ba # 3	1.0635	0.2127	ug/l	3.45	1800.00		913.39	853.38	843.38
202 Hg # 3	-0.038125	-0.007625	ug/l	52.96	5.00		95.67	108.33	86.00
205 Tl # 3	-0.018145	-0.003629	ug/l	31.11	20.00		86.67	126.67	73.34
208 Pb # 3	0.43725	0.08745	ug/l	2.39	1800.00		4413.72	4450.40	4440.39
232 Th # 3	0.0706	0.01412	ug/l	11.25	#VALUE!		883.38	770.05	756.71
238 U # 3	0.00555	0.00111	ug/l	9.23	#VALUE!		73.34	66.67	76.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	412808.06	0.99	442436.88	93.3	60 - 125		417516.97	410273.91	410633.31
45 Sc # 1	420391.91	0.36	456299.72	92.1	60 - 125		420741.69	421719.47	418714.50
45 Sc # 3	710568.44	2.57	765061.25	92.9	60 - 125		728329.88	711479.38	691896.06
74 Ge # 1	145772.95	0.30	153441.28	95.0	60 - 125		145518.48	146278.36	145521.95
74 Ge # 2	43453.80	0.38	47804.94	90.9	60 - 125		43270.06	43585.22	43506.11
74 Ge # 3	210596.88	2.21	224564.78	93.8	60 - 125		214840.41	205608.91	211341.28
89 Y # 3	1247378.10	1.92	1302847.50	95.7	60 - 125		1272812.30	1225386.60	1243935.40
115 In # 3	1312188.40	1.95	1366177.60	96.0	60 - 125		1335152.80	1284570.90	1316841.60
159 Tb # 3	1902225.10	1.27	2052817.90	92.7	60 - 125		1920662.00	1874803.50	1911210.00
209 Bi # 3	1271459.00	1.91	1405468.50	90.5	60 - 125		1291251.60	1244402.40	1278722.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\219SMPL.D\219SMPL.D#
 Date Acquired: Aug 25 2014 12:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104392-a-1-gPDS
 Misc Info: 3010 1/5
 Vial Number: 3505
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	20.11	20.11	ug/l	0.66	100.00		35833.31	35749.88	35843.16
11 B # 3	43.03	43.03	ug/l	1.48	1800.00		61052.27	63309.73	62998.44
23 Na # 1	31450	31450	ug/l	0.94	81000.00		102296900.00	102774740.00	103107960.00
24 Mg # 1	2395	2395	ug/l	0.39	81000.00		5500891.50	5453658.00	5498326.50
27 Al # 1	239.9	239.9	ug/l	0.90	81000.00		652327.06	649393.63	658600.13
39 K # 2	2131	2131	ug/l	0.42	81000.00		686553.94	689479.69	694297.31
40 Ca # 1	4793	4793	ug/l	0.54	81000.00		30198146.00	30019950.00	30275106.00
47 Ti # 3	21.45	21.45	ug/l	0.67	1620.00		22680.86	22423.82	22684.16
51 V # 2	21.72	21.72	ug/l	0.88	1800.00		53835.73	54094.44	54016.40
52 Cr # 2	21.65	21.65	ug/l	1.02	1800.00		64877.30	65643.31	65252.01
55 Mn # 3	220.1	220.1	ug/l	0.59	1800.00		3990755.00	3973388.30	3972362.80
56 Fe # 1	2417	2417	ug/l	0.80	81000.00		19796302.00	19848046.00	19895824.00
59 Co # 3	20.75	20.75	ug/l	0.52	1800.00		283262.63	285729.41	282754.34
60 Ni # 2	22.13	22.13	ug/l	0.31	1800.00		24462.90	24663.10	24862.30
63 Cu # 2	21.34	21.34	ug/l	0.69	1800.00		65367.12	65414.89	65695.86
66 Zn # 3	125.7	125.7	ug/l	0.73	1800.00		251323.53	251042.67	249064.22
75 As # 2	21.33	21.33	ug/l	1.37	100.00		6986.35	6935.33	6923.32
78 Se # 1	21.38	21.38	ug/l	0.69	100.00		5419.15	5360.46	5406.14
88 Sr # 3	23.15	23.15	ug/l	0.57	1800.00		560711.13	557336.94	562535.38
95 Mo # 3	21.02	21.02	ug/l	0.04	1800.00		79427.20	79905.77	79701.74
107 Ag # 3	19.88	19.88	ug/l	0.53	100.00		209755.17	212163.77	209387.55
111 Cd # 3	20.46	20.46	ug/l	1.37	100.00		46695.72	47547.77	46144.25
118 Sn # 3	20.81	20.81	ug/l	1.02	1800.00		151377.63	149945.58	149192.58
121 Sb # 3	20.68	20.68	ug/l	0.18	100.00		177740.56	178952.33	177918.28
137 Ba # 3	21.65	21.65	ug/l	0.39	1800.00		82406.23	82975.24	82191.68
202 Hg # 3	0.9851	0.9851	ug/l	2.85	5.00		3128.98	3078.64	3116.64
205 Tl # 3	3.949	3.949	ug/l	1.72	20.00		100906.61	100624.73	103241.84
208 Pb # 3	20.69	20.69	ug/l	1.87	1800.00		721767.81	726463.13	726204.88
232 Th # 3	21.61	21.61	ug/l	1.54	#VALUE!		794350.13	792272.44	788488.31
238 U # 3	20.71	20.71	ug/l	1.00	#VALUE!		790380.63	786515.06	792888.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	411513.56	0.55	442436.88	93.0	60 - 125		409026.28	413455.72	412058.63
45 Sc # 1	424340.72	0.60	456299.72	93.0	60 - 125		427173.94	422168.03	423680.13
45 Sc # 3	712541.44	0.10	765061.25	93.1	60 - 125		711854.56	712498.00	713271.75
74 Ge # 1	144986.00	0.32	153441.28	94.5	60 - 125		144554.58	144934.17	145469.22
74 Ge # 2	42763.30	0.96	47804.94	89.5	60 - 125		42444.75	42618.52	43226.62
74 Ge # 3	210816.88	0.33	224564.78	93.9	60 - 125		210012.08	211265.72	211172.83
89 Y # 3	1245406.80	0.98	1302847.50	95.6	60 - 125		1242392.80	1234949.40	1258878.30
115 In # 3	1278115.30	0.34	1366177.60	93.6	60 - 125		1273555.00	1282059.10	1278731.60
159 Tb # 3	1897348.10	2.19	2052817.90	92.4	60 - 125		1850910.80	1910055.00	1931078.30
209 Bi # 3	1225312.50	1.17	1405468.50	87.2	60 - 125		1212740.90	1222361.60	1240835.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\220SMPL.D\220SMPL.D#
 Date Acquired: Aug 25 2014 01:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104392-a-1-h ms
 Misc Info: 3010 1/5
 Vial Number: 3506
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	35.39	35.39	ug/l	0.38	100.00		62697.43	62442.55	62245.66
11 B #3	72.15	72.15	ug/l	0.53	1800.00		102645.72	101753.87	102511.09
23 Na #1	28830	28830	ug/l	0.36	81000.00		93827448.00	93695864.00	93315936.00
24 Mg #1	4001	4001	ug/l	0.73	81000.00		9129842.00	9147953.00	9029477.00
27 Al #1	408	408	ug/l	0.29	81000.00		1112496.90	1099034.40	1098137.60
39 K #2	3649	3649	ug/l	1.55	81000.00		1153320.90	1160589.60	1183284.00
40 Ca #1	6077	6077	ug/l	0.57	81000.00		38404604.00	37928180.00	37694004.00
47 Ti #3	37.61	37.61	ug/l	0.57	1620.00		39131.34	39041.01	38910.84
51 V #2	37.36	37.36	ug/l	1.21	1800.00		92242.95	92089.84	92083.18
52 Cr #2	37.44	37.44	ug/l	1.02	1800.00		111037.48	111911.27	112830.10
55 Mn #3	373.3	373.3	ug/l	1.26	1800.00		6698704.00	6735105.00	6675394.00
56 Fe #1	4129	4129	ug/l	0.24	81000.00		33773456.00	33652084.00	33627308.00
59 Co #3	35.92	35.92	ug/l	1.13	1800.00		487519.88	489278.94	488263.47
60 Ni #2	37.89	37.89	ug/l	1.17	1800.00		41858.19	41858.16	42080.91
63 Cu #2	37.01	37.01	ug/l	1.22	1800.00		112547.95	112388.57	112908.96
66 Zn #3	124.2	124.2	ug/l	0.82	1800.00		247935.39	245886.50	243992.34
75 As #2	36.72	36.72	ug/l	0.52	100.00		11808.49	11951.92	11870.19
78 Se #1	36.98	36.98	ug/l	1.23	100.00		9232.02	9369.09	9211.00
88 Sr #3	38.29	38.29	ug/l	0.68	1800.00		940876.56	920125.63	938076.31
95 Mo #3	36.6	36.6	ug/l	1.12	1800.00		138710.19	138958.38	137454.11
107 Ag #3	36.08	36.08	ug/l	1.17	100.00		380935.19	383724.69	379094.84
111 Cd #3	35.3	35.3	ug/l	0.87	100.00		79808.05	80461.12	81499.37
118 Sn #3	35.97	35.97	ug/l	0.77	1800.00		256501.95	258717.89	260735.39
121 Sb #3	35.53	35.53	ug/l	0.57	100.00		305060.47	305759.88	305845.06
137 Ba #3	36.55	36.55	ug/l	1.50	1800.00		137468.36	140559.64	139024.48
202 Hg #3	1.584	1.584	ug/l	0.95	5.00		4868.42	4879.09	4879.42
205 Tl #3	6.899	6.899	ug/l	0.44	20.00		174259.95	175932.11	176538.25
208 Pb #3	35.35	35.35	ug/l	1.28	1800.00		1228281.30	1227170.90	1220946.50
232 Th #3	39.71	39.71	ug/l	1.36	#VALUE!		1436158.10	1435448.90	1470044.80
238 U #3	37.97	37.97	ug/l	0.24	#VALUE!		1444442.50	1436209.00	1442795.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	407966.44	0.04	442436.88	92.2	60 - 125		407809.78	408166.81	407922.69
45 Sc #1	421706.00	0.46	456299.72	92.4	60 - 125		423920.72	420387.84	420809.44
45 Sc #3	703483.25	0.28	765061.25	92.0	60 - 125		701489.94	703470.63	705489.13
74 Ge #1	144241.08	0.72	153441.28	94.0	60 - 125		145387.95	143973.52	143361.77
74 Ge #2	42501.22	1.13	47804.94	88.9	60 - 125		42026.05	42982.69	42494.91
74 Ge #3	209495.19	0.95	224564.78	93.3	60 - 125		211559.89	207587.55	209338.14
89 Y #3	1253960.50	1.02	1302847.50	96.2	60 - 125		1254637.50	1240805.90	1266438.30
115 In #3	1275843.10	0.56	1366177.60	93.4	60 - 125		1276286.10	1268498.50	1282744.60
159 Tb #3	1878118.10	1.05	2052817.90	91.5	60 - 125		1855330.60	1889559.50	1889464.10
209 Bi #3	1219232.80	0.07	1405468.50	86.7	60 - 125		1219995.50	1218345.00	1219357.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\221SMPL.D\221SMPL.D#
 Date Acquired: Aug 25 2014 01:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104392-a-1-i msd
 Misc Info: 3010 1/5
 Vial Number: 3507
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	32.17	32.17	ug/l	1.26	100.00		57010.13	55923.38	57400.80
11 B # 3	66.83	66.83	ug/l	1.22	1800.00		95773.58	93510.53	95543.41
23 Na # 1	27050	27050	ug/l	0.31	81000.00		87236504.00	87846736.00	87045096.00
24 Mg # 1	3671	3671	ug/l	0.29	81000.00		8275933.00	8327795.50	8320896.50
27 Al # 1	371.2	371.2	ug/l	1.15	81000.00		998108.94	1011704.10	985721.63
39 K # 2	3352	3352	ug/l	1.44	81000.00		1059411.90	1056946.90	1085063.40
40 Ca # 1	5611	5611	ug/l	0.48	81000.00		34850268.00	34822096.00	35047864.00
47 Ti # 3	34.27	34.27	ug/l	1.01	1620.00		35727.92	35621.20	35206.83
51 V # 2	33.96	33.96	ug/l	1.12	1800.00		82640.80	83926.41	83692.20
52 Cr # 2	33.98	33.98	ug/l	1.03	1800.00		100229.24	101573.17	101722.75
55 Mn # 3	343.2	343.2	ug/l	1.06	1800.00		6166893.00	6095707.50	6128474.00
56 Fe # 1	3769	3769	ug/l	0.25	81000.00		30641516.00	30572216.00	30554722.00
59 Co # 3	32.98	32.98	ug/l	0.94	1800.00		447318.63	442461.44	448405.50
60 Ni # 2	34.55	34.55	ug/l	1.61	1800.00		37935.34	38242.73	38047.91
63 Cu # 2	33.7	33.7	ug/l	1.25	1800.00		101468.25	102226.59	102645.66
66 Zn # 3	117.2	117.2	ug/l	1.22	1800.00		231885.70	228153.28	232473.22
75 As # 2	33.68	33.68	ug/l	1.58	100.00		10818.21	10841.22	10875.25
78 Se # 1	33.65	33.65	ug/l	0.50	100.00		8452.31	8393.27	8401.62
88 Sr # 3	34.25	34.25	ug/l	1.06	1800.00		827931.00	815218.81	819647.81
95 Mo # 3	33.68	33.68	ug/l	0.83	1800.00		126825.88	126069.55	127333.05
107 Ag # 3	33.55	33.55	ug/l	0.52	100.00		352386.56	353072.44	353049.50
111 Cd # 3	32.41	32.41	ug/l	0.68	100.00		73332.91	74032.94	73556.97
118 Sn # 3	33.02	33.02	ug/l	1.19	1800.00		236296.30	234493.53	238475.88
121 Sb # 3	32.49	32.49	ug/l	0.49	100.00		278187.00	277820.59	278372.84
137 Ba # 3	33.73	33.73	ug/l	0.14	1800.00		128132.56	127680.02	127313.46
202 Hg # 3	1.503	1.503	ug/l	0.49	5.00		4633.69	4658.04	4716.04
205 Tl # 3	6.34	6.34	ug/l	0.96	20.00		163317.22	162276.88	162329.45
208 Pb # 3	32.31	32.31	ug/l	0.78	1800.00		1130384.40	1130017.90	1125912.10
232 Th # 3	36.54	36.54	ug/l	2.46	#VALUE!		1358786.10	1326375.60	1333536.50
238 U # 3	34.47	34.47	ug/l	0.73	#VALUE!		1309084.40	1312666.30	1326654.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408024.47	0.14	442436.88	92.2	60 - 125		408603.94	407484.88	407984.56
45 Sc # 1	419464.91	0.17	456299.72	91.9	60 - 125		419137.72	420270.19	418986.81
45 Sc # 3	702402.56	0.26	765061.25	91.8	60 - 125		700386.44	702859.56	703961.56
74 Ge # 1	143880.23	0.33	153441.28	93.8	60 - 125		143961.25	144305.97	143373.50
74 Ge # 2	42317.86	1.81	47804.94	88.5	60 - 125		41462.56	42550.57	42940.44
74 Ge # 3	208399.50	0.55	224564.78	92.8	60 - 125		207123.53	208747.52	209327.44
89 Y # 3	1233697.80	0.61	1302847.50	94.7	60 - 125		1229619.80	1229078.10	1242395.60
115 In # 3	1269940.90	0.43	1366177.60	93.0	60 - 125		1274670.00	1271159.90	1263992.80
159 Tb # 3	1892913.30	0.60	2052817.90	92.2	60 - 125		1880132.90	1896472.00	1902134.80
209 Bi # 3	1226547.90	1.38	1405468.50	87.3	60 - 125		1210082.50	1225736.00	1243825.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\222SMPL.D\222SMPL.D#
 Date Acquired: Aug 25 2014 01:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104429-e-1-e
 Misc Info: 3010 1/5
 Vial Number: 3508
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003138	0.003138	ug/l	101.43	100.00		3.33	3.33	13.33
11 B # 3	2.816	2.816	ug/l	5.26	1800.00		6197.80	6101.10	6351.18
23 Na # 1	23630	23630	ug/l	0.56	81000.00		77142152.00	76800168.00	77664088.00
24 Mg # 1	1085	1085	ug/l	0.58	81000.00		2489103.30	2489100.80	2478157.50
27 Al # 1	1.45	1.45	ug/l	6.29	81000.00		5310.88	5737.68	5430.92
39 K # 2	192.9	192.9	ug/l	0.53	81000.00		73523.38	73847.82	74082.25
40 Ca # 1	16510	16510	ug/l	0.46	81000.00		103845680.00	103761220.00	103917700.00
47 Ti # 3	0.0009438	0.0009438	ug/l	1890.20	1620.00		83.34	130.00	100.00
51 V # 2	0.1005	0.1005	ug/l	3.14	1800.00		474.46	463.34	465.57
52 Cr # 2	0.02998	0.02998	ug/l	16.89	1800.00		395.56	414.45	388.90
55 Mn # 3	133.8	133.8	ug/l	3.48	1800.00		2409216.50	2431106.80	2396063.30
56 Fe # 1	1.121	1.121	ug/l	0.99	81000.00		13558.65	13248.43	13368.56
59 Co # 3	0.7766	0.7766	ug/l	4.81	1800.00		10753.41	10826.76	10396.53
60 Ni # 2	0.4908	0.4908	ug/l	3.33	1800.00		611.13	593.35	582.24
63 Cu # 2	0.05455	0.05455	ug/l	3.42	1800.00		574.46	578.90	574.46
66 Zn # 3	0.7787	0.7787	ug/l	4.94	1800.00		2146.86	2133.51	2153.51
75 As # 2	0.09195	0.09195	ug/l	13.58	100.00		43.33	40.00	48.67
78 Se # 1	-0.02905	-0.02905	ug/l	14.85	100.00		13.00	11.00	13.00
88 Sr # 3	25.07	25.07	ug/l	4.43	1800.00		611432.81	614452.38	607357.31
95 Mo # 3	0.02033	0.02033	ug/l	18.42	1800.00		166.67	190.01	206.67
107 Ag # 3	0.001037	0.001037	ug/l	114.37	100.00		110.00	133.34	143.34
111 Cd # 3	0.03694	0.03694	ug/l	37.39	100.00		96.63	56.63	116.63
118 Sn # 3	0.1268	0.1268	ug/l	21.32	1800.00		1720.14	1526.78	1500.11
121 Sb # 3	0.02516	0.02516	ug/l	22.91	100.00		286.68	266.68	206.68
137 Ba # 3	9.49	9.49	ug/l	5.47	1800.00		36413.01	35988.84	35644.76
202 Hg # 3	-0.004861	-0.004861	ug/l	45.73	5.00		105.33	102.33	101.67
205 Tl # 3	0.006607	0.006607	ug/l	20.31	20.00		320.01	400.02	340.01
208 Pb # 3	0.002043	0.002043	ug/l	1063.10	1800.00		2157.76	1096.72	923.38
232 Th # 3	0.09506	0.09506	ug/l	12.33	#VALUE!		4000.63	3573.87	3490.50
238 U # 3	0.03992	0.03992	ug/l	4.52	#VALUE!		1503.45	1480.12	1616.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	412642.88	2.61	442436.88	93.3	60 - 125		400378.00	420488.84	417061.75
45 Sc # 1	424247.25	0.50	456299.72	93.0	60 - 125		426297.31	422027.53	424416.84
45 Sc # 3	701379.63	5.97	765061.25	91.7	60 - 125		653628.63	731808.63	718701.63
74 Ge # 1	144835.59	0.73	153441.28	94.4	60 - 125		144797.38	143799.80	145909.61
74 Ge # 2	42952.27	0.72	47804.94	89.8	60 - 125		42752.13	42796.77	43307.90
74 Ge # 3	210411.70	3.40	224564.78	93.7	60 - 125		202180.67	213987.75	215066.66
89 Y # 3	1255919.60	4.18	1302847.50	96.4	60 - 125		1195709.60	1279521.30	1292527.90
115 In # 3	1274095.50	4.43	1366177.60	93.3	60 - 125		1209833.10	1315949.40	1296504.00
159 Tb # 3	1868608.30	4.39	2052817.90	91.0	60 - 125		1774447.50	1906654.10	1924723.10
209 Bi # 3	1212566.30	3.85	1405468.50	86.3	60 - 125		1159085.30	1233127.50	1245486.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\223_CCV.D\223_CCV.D#
 Date Acquired: Aug 25 2014 01:28 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.9 ug/l	1.39	50.00	89.5 - 110		84685.30	85421.82	87005.51
11 B	95.72 ug/l	0.73	100.00	89.5 - 110		133301.97	133946.05	134966.05
23 Na	5163 ug/l	1.50	5000.00	89.5 - 110		16494141.00	16824474.00	16750250.00
24 Mg	5114 ug/l	0.91	5000.00	89.5 - 110		11478382.00	11603540.00	11521025.00
27 Al	519.4 ug/l	1.23	500.00	89.5 - 110		1379868.60	1403472.00	1391803.40
39 K	4811 ug/l	0.56	5000.00	89.5 - 110		1554032.60	1571361.90	1599980.80
40 Ca	5218 ug/l	0.85	5000.00	89.5 - 110		32366906.00	32654092.00	32038526.00
47 Ti	50.51 ug/l	0.75	50.00	89.5 - 110		53169.07	53366.31	52935.06
51 V	48.85 ug/l	0.65	50.00	89.5 - 110		122501.59	124511.45	124006.04
52 Cr	48.68 ug/l	0.50	50.00	89.5 - 110		148752.17	149102.33	150261.09
55 Mn	503.5 ug/l	0.49	500.00	89.5 - 110		9113416.00	9259682.00	9211407.00
56 Fe	5343 ug/l	0.44	5000.00	89.5 - 110		43313132.00	43114452.00	43208420.00
59 Co	48.85 ug/l	0.36	50.00	89.5 - 110		671192.25	679055.31	676191.88
60 Ni	49.79 ug/l	0.55	50.00	89.5 - 110		56249.35	56757.61	56760.85
63 Cu	48.71 ug/l	0.55	50.00	89.5 - 110		151524.78	151930.25	152859.11
66 Zn	49.4 ug/l	0.42	50.00	89.5 - 110		99126.53	100477.46	100020.95
75 As	49.58 ug/l	0.21	50.00	89.5 - 110		16323.94	16496.11	16580.84
78 Se	50.44 ug/l	0.87	50.00	89.5 - 110		12928.93	12812.18	12826.19
88 Sr	48.44 ug/l	1.21	50.00	89.5 - 110		1187615.80	1186771.40	1196665.40
95 Mo	49 ug/l	1.10	50.00	89.5 - 110		189201.84	188968.92	191490.83
107 Ag	47.82 ug/l	1.18	50.00	89.5 - 110		517529.53	514778.59	521596.72
111 Cd	48.6 ug/l	0.91	50.00	89.5 - 110		114035.35	113662.97	113491.69
118 Sn	48.74 ug/l	0.67	50.00	89.5 - 110		358597.34	359134.59	359462.28
121 Sb	48.24 ug/l	0.71	50.00	89.5 - 110		425035.31	425281.66	425692.03
137 Ba	48.47 ug/l	1.01	50.00	89.5 - 110		189197.13	188281.27	189520.94
202 Hg	2.446 ug/l	1.42	2.50	89.5 - 110		7516.11	7621.16	7613.83
205 Tl	9.538 ug/l	0.68	10.00	89.5 - 110		246737.55	246436.97	246482.97
208 Pb	47.99 ug/l	0.95	50.00	89.5 - 110		1690794.80	1682808.30	1694820.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	405184.41	0.55	442436.88	91.6	60 - 125		403117.34	407571.38	404864.44
45 Sc	418052.34	0.53	456299.72	91.6	60 - 125		420363.25	417857.13	415936.63
45 Sc	713845.69	0.66	765061.25	93.3	60 - 125		719270.81	711217.50	711048.81
74 Ge	146746.16	0.42	153441.28	95.6	60 - 125		146138.19	146730.34	147369.92
74 Ge	43652.84	0.96	47804.94	91.3	60 - 125		43222.16	43674.39	44061.97
74 Ge	213077.81	0.60	224564.78	94.9	60 - 125		212252.13	214556.27	212425.03
89 Y	1264749.00	0.98	1302847.50	97.1	60 - 125		1254846.60	1278599.00	1260801.40
115 In	1307946.90	0.73	1366177.60	95.7	60 - 125		1298597.80	1317796.30	1307446.50
159 Tb	1908016.00	0.72	2052817.90	92.9	60 - 125		1920570.40	1910219.80	1893257.90
209 Bi	1253910.30	1.01	1405468.50	89.2	60 - 125		1257618.40	1264358.50	1239753.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\224_CCB.D\224_CCB.D#
 Date Acquired: Aug 25 2014 01:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0006622	0.0006622	ug/l	162.19	#VALUE!		0.00	3.33	3.33
11 B #3	2.04	2.04	ug/l	3.53	#VALUE!		5037.44	5204.18	5210.82
23 Na #1	-8.219	-8.219	ug/l	4.11	#VALUE!		63601.91	64471.39	62956.26
24 Mg #1	0.02412	0.02412	ug/l	88.89	#VALUE!		1133.40	1073.39	1043.39
27 Al #1	-0.04973	-0.04973	ug/l	118.10	#VALUE!		1476.77	1236.74	1556.79
39 K #2	-9.256	-9.256	ug/l	4.65	#VALUE!		9352.59	9612.70	9459.30
40 Ca #1	0.3793	0.3793	ug/l	6.03	#VALUE!		27006.41	26702.74	26932.94
47 Ti #3	-0.06375	-0.06375	ug/l	10.12	#VALUE!		30.00	40.00	43.33
51 V #2	-0.004691	-0.004691	ug/l	84.25	#VALUE!		207.78	203.34	225.56
52 Cr #2	-0.01188	-0.01188	ug/l	28.29	#VALUE!		286.67	268.89	288.89
55 Mn #3	0.009068	0.009068	ug/l	33.24	#VALUE!		1550.11	1633.45	1636.79
56 Fe #1	0.7044	0.7044	ug/l	1.63	#VALUE!		9979.62	10039.68	9959.62
59 Co #3	-0.0005495	-0.0005495	ug/l	366.70	#VALUE!		33.33	56.67	90.00
60 Ni #2	-0.00457	-0.00457	ug/l	122.93	#VALUE!		44.44	48.89	36.67
63 Cu #2	-0.04176	-0.04176	ug/l	25.60	#VALUE!		277.78	325.56	263.34
66 Zn #3	-0.08997	-0.08997	ug/l	15.94	#VALUE!		460.02	400.01	450.02
75 As #2	-0.001433	-0.001433	ug/l	277.18	#VALUE!		12.33	15.00	14.33
78 Se #1	-0.03242	-0.03242	ug/l	21.50	#VALUE!		13.67	11.33	10.33
88 Sr #3	3.004E-005	3.004E-005	ug/l	5253.00	#VALUE!		113.34	170.01	190.01
95 Mo #3	0.03619	0.03619	ug/l	38.30	#VALUE!		240.01	316.68	213.34
107 Ag #3	-0.0007101	-0.0007101	ug/l	475.99	#VALUE!		123.34	73.34	146.67
111 Cd #3	0.002446	0.002446	ug/l	220.36	#VALUE!		26.61	3.26	6.62
118 Sn #3	0.1152	0.1152	ug/l	5.44	#VALUE!		1600.12	1553.45	1533.44
121 Sb #3	0.02507	0.02507	ug/l	1.89	#VALUE!		256.68	266.68	266.68
137 Ba #3	0.0006963	0.0006963	ug/l	568.43	#VALUE!		23.33	53.34	46.67
202 Hg #3	0.01609	0.01609	ug/l	12.54	#VALUE!		173.33	164.00	175.00
205 Tl #3	-0.001803	-0.001803	ug/l	46.21	#VALUE!		133.34	130.00	170.01
208 Pb #3	-0.02134	-0.02134	ug/l	7.15	#VALUE!		570.02	683.36	626.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	414128.59	0.44	442436.88	93.6	60 - 125		414115.97	415937.06	412332.75
45 Sc #1	424963.66	0.56	456299.72	93.1	60 - 125		424383.03	422939.25	427568.69
45 Sc #3	713623.06	0.75	765061.25	93.3	60 - 125		708375.06	719129.75	713364.38
74 Ge #1	148693.59	0.75	153441.28	96.9	60 - 125		147639.98	148585.69	149855.06
74 Ge #2	44197.05	0.86	47804.94	92.5	60 - 125		43880.34	44090.88	44619.93
74 Ge #3	217371.39	0.65	224564.78	96.8	60 - 125		218435.56	215766.45	217912.14
89 Y #3	1278288.90	0.44	1302847.50	98.1	60 - 125		1271806.40	1281647.50	1281412.80
115 In #3	1322629.10	0.82	1366177.60	96.8	60 - 125		1312428.10	1321396.90	1334062.50
159 Tb #3	1923340.00	0.56	2052817.90	93.7	60 - 125		1911077.30	1927801.60	1931140.60
209 Bi #3	1285266.30	1.15	1405468.50	91.4	60 - 125		1268984.50	1298003.90	1288810.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\225SMPL.D\225SMPL.D#
 Date Acquired: Aug 25 2014 01:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345416_1-a
 Misc Info: 3005 1/5
 Vial Number: 3509
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	3.761E-005	3.761E-005	ug/l	2837.00	100.00		0.00	0.00	3.33
11 B # 3	1.626	1.626	ug/l	3.93	1800.00		4530.64	4644.00	4684.02
23 Na # 1	-7.726	-7.726	ug/l	1.75	81000.00		66745.89	65919.41	66588.48
24 Mg # 1	0.2584	0.2584	ug/l	16.69	81000.00		1576.77	1596.78	1773.46
27 Al # 1	1.061	1.061	ug/l	4.87	81000.00		4630.68	4353.94	4584.01
39 K # 2	-6.379	-6.379	ug/l	40.62	81000.00		9779.46	9882.88	9976.23
40 Ca # 1	3.059	3.059	ug/l	2.61	81000.00		44930.54	43928.35	44676.57
47 Ti # 3	-0.033	-0.033	ug/l	76.79	1620.00		60.00	100.00	50.00
51 V # 2	0.05105	0.05105	ug/l	28.50	1800.00		341.12	332.23	334.45
52 Cr # 2	0.009636	0.009636	ug/l	101.78	1800.00		318.89	354.45	317.78
55 Mn # 3	0.3072	0.3072	ug/l	0.92	1800.00		7158.24	7074.87	7151.58
56 Fe # 1	2.152	2.152	ug/l	1.55	81000.00		22377.28	22380.56	22066.88
59 Co # 3	0.002002	0.002002	ug/l	49.69	1800.00		106.67	80.00	100.00
60 Ni # 2	0.09981	0.09981	ug/l	17.43	1800.00		152.22	170.00	142.22
63 Cu # 2	0.01565	0.01565	ug/l	92.40	1800.00		446.68	451.12	437.79
66 Zn # 3	0.4202	0.4202	ug/l	6.57	1800.00		1533.44	1426.76	1466.77
75 As # 2	0.01468	0.01468	ug/l	36.92	100.00		15.67	18.00	21.67
78 Se # 1	-0.03852	-0.03852	ug/l	21.02	100.00		8.67	9.67	12.67
88 Sr # 3	0.0005199	0.0005199	ug/l	203.69	1800.00		146.67	160.01	196.67
95 Mo # 3	0.0006703	0.0006703	ug/l	847.98	1800.00		96.67	116.67	140.00
107 Ag # 3	-0.002038	-0.002038	ug/l	67.62	100.00		103.34	113.34	83.34
111 Cd # 3	8.117E-005	8.117E-005	ug/l	1716.20	100.00		9.98	3.31	6.64
118 Sn # 3	0.09664	0.09664	ug/l	8.32	1800.00		1503.44	1403.44	1373.43
121 Sb # 3	0.006733	0.006733	ug/l	9.38	100.00		103.34	93.34	103.34
137 Ba # 3	-0.0001419	-0.0001419	ug/l	1845.00	1800.00		26.67	46.67	40.00
202 Hg # 3	-0.003676	-0.003676	ug/l	113.17	5.00		99.00	122.34	106.00
205 Tl # 3	-0.003735	-0.003735	ug/l	17.79	20.00		93.34	110.00	76.67
208 Pb # 3	-0.02319	-0.02319	ug/l	29.31	1800.00		406.68	430.02	834.73
232 Th # 3	0.04694	0.04694	ug/l	5.60	#VALUE!		2213.56	1996.86	2036.86
238 U # 3	0.0003369	0.0003369	ug/l	76.43	#VALUE!		40.00	33.33	53.34

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	418868.00	0.38	442436.88	94.7	60 - 125		419536.38	419993.75	417073.84
45 Sc # 1	432310.06	0.45	456299.72	94.7	60 - 125		431124.72	431246.31	434559.19
45 Sc # 3	713580.31	0.32	765061.25	93.3	60 - 125		712241.63	712321.25	716178.00
74 Ge # 1	150476.28	0.28	153441.28	98.1	60 - 125		150693.78	150750.70	149984.33
74 Ge # 2	42099.61	8.71	47804.94	88.1	60 - 125		37912.16	43639.81	44746.88
74 Ge # 3	216393.69	0.22	224564.78	96.4	60 - 125		215889.66	216481.17	216810.22
89 Y # 3	1262878.30	0.25	1302847.50	96.9	60 - 125		1260740.00	1266515.30	1261379.60
115 In # 3	1324754.50	0.57	1366177.60	97.0	60 - 125		1333219.90	1322125.80	1318917.90
159 Tb # 3	1909161.00	0.64	2052817.90	93.0	60 - 125		1918356.60	1895303.10	1913822.90
209 Bi # 3	1291330.40	0.71	1405468.50	91.9	60 - 125		1301662.80	1288284.00	1284044.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\224_CCB.D\224_CCB.D#
 Date Acquired: Aug 25 2014 01:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0006622	0.0006622	ug/l	162.19	#VALUE!		0.00	3.33	3.33
11 B #3	2.04	2.04	ug/l	3.53	#VALUE!		5037.44	5204.18	5210.82
23 Na #1	-8.219	-8.219	ug/l	4.11	#VALUE!		63601.91	64471.39	62956.26
24 Mg #1	0.02412	0.02412	ug/l	88.89	#VALUE!		1133.40	1073.39	1043.39
27 Al #1	-0.04973	-0.04973	ug/l	118.10	#VALUE!		1476.77	1236.74	1556.79
39 K #2	-9.256	-9.256	ug/l	4.65	#VALUE!		9352.59	9612.70	9459.30
40 Ca #1	0.3793	0.3793	ug/l	6.03	#VALUE!		27006.41	26702.74	26932.94
47 Ti #3	-0.06375	-0.06375	ug/l	10.12	#VALUE!		30.00	40.00	43.33
51 V #2	-0.004691	-0.004691	ug/l	84.25	#VALUE!		207.78	203.34	225.56
52 Cr #2	-0.01188	-0.01188	ug/l	28.29	#VALUE!		286.67	268.89	288.89
55 Mn #3	0.009068	0.009068	ug/l	33.24	#VALUE!		1550.11	1633.45	1636.79
56 Fe #1	0.7044	0.7044	ug/l	1.63	#VALUE!		9979.62	10039.68	9959.62
59 Co #3	-0.0005495	-0.0005495	ug/l	366.70	#VALUE!		33.33	56.67	90.00
60 Ni #2	-0.00457	-0.00457	ug/l	122.93	#VALUE!		44.44	48.89	36.67
63 Cu #2	-0.04176	-0.04176	ug/l	25.60	#VALUE!		277.78	325.56	263.34
66 Zn #3	-0.08997	-0.08997	ug/l	15.94	#VALUE!		460.02	400.01	450.02
75 As #2	-0.001433	-0.001433	ug/l	277.18	#VALUE!		12.33	15.00	14.33
78 Se #1	-0.03242	-0.03242	ug/l	21.50	#VALUE!		13.67	11.33	10.33
88 Sr #3	3.004E-005	3.004E-005	ug/l	5253.00	#VALUE!		113.34	170.01	190.01
95 Mo #3	0.03619	0.03619	ug/l	38.30	#VALUE!		240.01	316.68	213.34
107 Ag #3	-0.0007101	-0.0007101	ug/l	475.99	#VALUE!		123.34	73.34	146.67
111 Cd #3	0.002446	0.002446	ug/l	220.36	#VALUE!		26.61	3.26	6.62
118 Sn #3	0.1152	0.1152	ug/l	5.44	#VALUE!		1600.12	1553.45	1533.44
121 Sb #3	0.02507	0.02507	ug/l	1.89	#VALUE!		256.68	266.68	266.68
137 Ba #3	0.0006963	0.0006963	ug/l	568.43	#VALUE!		23.33	53.34	46.67
202 Hg #3	0.01609	0.01609	ug/l	12.54	#VALUE!		173.33	164.00	175.00
205 Tl #3	-0.001803	-0.001803	ug/l	46.21	#VALUE!		133.34	130.00	170.01
208 Pb #3	-0.02134	-0.02134	ug/l	7.15	#VALUE!		570.02	683.36	626.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	414128.59	0.44	442436.88	93.6	60 - 125		414115.97	415937.06	412332.75
45 Sc #1	424963.66	0.56	456299.72	93.1	60 - 125		424383.03	422939.25	427568.69
45 Sc #3	713623.06	0.75	765061.25	93.3	60 - 125		708375.06	719129.75	713364.38
74 Ge #1	148693.59	0.75	153441.28	96.9	60 - 125		147639.98	148585.69	149855.06
74 Ge #2	44197.05	0.86	47804.94	92.5	60 - 125		43880.34	44090.88	44619.93
74 Ge #3	217371.39	0.65	224564.78	96.8	60 - 125		218435.56	215766.45	217912.14
89 Y #3	1278288.90	0.44	1302847.50	98.1	60 - 125		1271806.40	1281647.50	1281412.80
115 In #3	1322629.10	0.82	1366177.60	96.8	60 - 125		1312428.10	1321396.90	1334062.50
159 Tb #3	1923340.00	0.56	2052817.90	93.7	60 - 125		1911077.30	1927801.60	1931140.60
209 Bi #3	1285266.30	1.15	1405468.50	91.4	60 - 125		1268984.50	1298003.90	1288810.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\226SMPL.D\226SMPL.D#
 Date Acquired: Aug 25 2014 01:50 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345416_2-a
 Misc Info: 3005 1/5
 Vial Number: 3510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.08	10.08	ug/l	0.60	100.00		18098.71	17715.01	17758.42
11 B # 3	40.87	40.87	ug/l	0.99	1800.00		58912.49	59313.48	59300.63
23 Na # 1	1054	1054	ug/l	0.94	81000.00		3518020.80	3485490.80	3531843.30
24 Mg # 1	1075	1075	ug/l	0.87	81000.00		2436163.80	2440625.50	2465962.50
27 Al # 1	1054	1054	ug/l	0.26	81000.00		2843941.50	2865286.80	2841477.80
39 K # 2	996	996	ug/l	0.56	81000.00		327724.34	326762.91	332875.53
40 Ca # 1	1100	1100	ug/l	0.45	81000.00		6872542.50	6950236.50	6894574.00
47 Ti # 3	20.19	20.19	ug/l	0.97	1620.00		20555.02	20678.49	21035.57
51 V # 2	20.05	20.05	ug/l	0.45	1800.00		49324.68	50084.54	50231.42
52 Cr # 2	20.35	20.35	ug/l	0.89	1800.00		61431.41	61364.49	61336.65
55 Mn # 3	108.3	108.3	ug/l	1.22	1800.00		1909140.10	1928288.90	1934885.00
56 Fe # 1	1106	1106	ug/l	0.80	81000.00		9015707.00	9135649.00	8950787.00
59 Co # 3	10.41	10.41	ug/l	1.13	1800.00		139044.50	140814.72	140296.45
60 Ni # 2	21.23	21.23	ug/l	0.98	1800.00		23609.52	23793.14	23601.76
63 Cu # 2	20.34	20.34	ug/l	1.36	1800.00		62365.71	63036.77	62046.91
66 Zn # 3	20.46	20.46	ug/l	1.95	1800.00		40174.66	40241.26	41260.29
75 As # 2	20.61	20.61	ug/l	0.44	100.00		6692.90	6678.23	6773.27
78 Se # 1	20.9	20.9	ug/l	1.07	100.00		5339.12	5364.47	5241.10
88 Sr # 3	19.12	19.12	ug/l	0.78	1800.00		460389.25	460656.75	459597.03
95 Mo # 3	19.97	19.97	ug/l	1.52	1800.00		76658.73	75881.92	76776.06
107 Ag # 3	10.13	10.13	ug/l	1.18	100.00		108949.20	107866.38	108476.58
111 Cd # 3	10.06	10.06	ug/l	0.57	100.00		23322.62	23302.63	23098.90
118 Sn # 3	41.06	41.06	ug/l	0.38	1800.00		300135.31	299581.88	296179.19
121 Sb # 3	10.11	10.11	ug/l	1.34	100.00		87588.01	88294.84	88144.67
137 Ba # 3	19.73	19.73	ug/l	1.61	1800.00		76612.73	75066.12	76197.29
202 Hg # 3	0.9198	0.9198	ug/l	1.31	5.00		2954.28	2985.63	2915.94
205 Tl # 3	7.788	7.788	ug/l	1.12	20.00		202203.19	201703.92	205217.98
208 Pb # 3	9.924	9.924	ug/l	0.59	1800.00		352620.34	353508.84	354178.69
232 Th # 3	10.16	10.16	ug/l	0.39	#VALUE!		383667.94	385654.56	385553.16
238 U # 3	9.979	9.979	ug/l	1.85	#VALUE!		397620.47	388182.50	394790.19

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	409698.00	0.57	442436.88	92.6	60 - 125		412369.16	408007.13	408717.72
45 Sc # 1	421951.59	0.25	456299.72	92.5	60 - 125		421952.44	422995.19	420907.09
45 Sc # 3	695380.13	0.34	765061.25	90.9	60 - 125		692633.06	696502.50	697004.63
74 Ge # 1	146068.55	0.27	153441.28	95.2	60 - 125		146482.36	146016.39	145706.92
74 Ge # 2	42777.05	0.81	47804.94	89.5	60 - 125		42454.81	42735.50	43140.84
74 Ge # 3	207149.78	0.52	224564.78	92.2	60 - 125		208359.69	206829.50	206260.13
89 Y # 3	1238821.40	0.80	1302847.50	95.1	60 - 125		1250169.80	1232220.10	1234074.00
115 In # 3	1291041.50	1.09	1366177.60	94.5	60 - 125		1301142.10	1297076.90	1274905.40
159 Tb # 3	1924108.30	0.39	2052817.90	93.7	60 - 125		1932727.60	1919111.40	1920485.80
209 Bi # 3	1266642.00	0.66	1405468.50	90.1	60 - 125		1257407.80	1273880.60	1268637.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\227SMPL.D\227SMPL.D#
 Date Acquired: Aug 25 2014 01:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97415-a-5-b
 Misc Info: 3005 1/5
 Vial Number: 3511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003214	0.003214	ug/l	0.40	100.00		6.67	6.67	6.67
11 B # 3	1.609	1.609	ug/l	1.39	1800.00		4433.95	4467.28	4473.96
23 Na # 1	45.82	45.82	ug/l	1.02	81000.00		235662.52	234057.98	232155.83
24 Mg # 1	1.154	1.154	ug/l	1.85	81000.00		3567.11	3633.78	3527.09
27 Al # 1	1.875	1.875	ug/l	2.01	81000.00		6597.96	6414.59	6437.94
39 K # 2	-7.195	-7.195	ug/l	12.53	81000.00		10022.92	9849.53	9706.10
40 Ca # 1	20.98	20.98	ug/l	0.53	81000.00		151991.67	153510.97	152065.53
47 Ti # 3	-0.02846	-0.02846	ug/l	73.58	1620.00		60.00	96.67	60.00
51 V # 2	0.03873	0.03873	ug/l	19.85	1800.00		290.00	326.67	325.56
52 Cr # 2	0.00553	0.00553	ug/l	44.99	1800.00		315.56	323.34	338.90
55 Mn # 3	0.7266	0.7266	ug/l	1.24	1800.00		14359.29	14379.26	14582.73
56 Fe # 1	4.76	4.76	ug/l	1.35	81000.00		41827.75	42048.11	42689.63
59 Co # 3	0.003852	0.003852	ug/l	8.72	1800.00		113.34	123.34	116.67
60 Ni # 2	0.3002	0.3002	ug/l	4.72	1800.00		380.01	363.34	404.45
63 Cu # 2	0.03284	0.03284	ug/l	30.16	1800.00		513.35	530.01	483.34
66 Zn # 3	0.5536	0.5536	ug/l	5.98	1800.00		1763.47	1673.46	1643.45
75 As # 2	0.02434	0.02434	ug/l	15.90	100.00		21.67	23.00	21.00
78 Se # 1	-0.03029	-0.03029	ug/l	72.83	100.00		18.33	8.00	9.67
88 Sr # 3	0.03488	0.03488	ug/l	9.25	1800.00		1066.73	980.05	933.38
95 Mo # 3	0.008685	0.008685	ug/l	28.37	1800.00		143.34	140.00	156.67
107 Ag # 3	-0.002486	-0.002486	ug/l	87.69	100.00		106.67	66.67	106.67
111 Cd # 3	0.0006179	0.0006179	ug/l	483.09	100.00		13.30	-0.03	9.97
118 Sn # 3	0.4192	0.4192	ug/l	0.85	1800.00		3727.17	3793.87	3763.85
121 Sb # 3	0.01325	0.01325	ug/l	28.67	100.00		146.67	193.34	126.67
137 Ba # 3	0.04213	0.04213	ug/l	5.75	1800.00		200.01	193.34	210.01
202 Hg # 3	-0.0007118	-0.0007118	ug/l	263.14	5.00		123.34	113.33	116.34
205 Tl # 3	0.006734	0.006734	ug/l	17.48	20.00		383.35	330.01	373.35
208 Pb # 3	-0.02372	-0.02372	ug/l	0.75	1800.00		540.02	533.36	533.35
232 Th # 3	0.1227	0.1227	ug/l	9.19	#VALUE!		5344.42	5034.31	4517.46
238 U # 3	0.001238	0.001238	ug/l	11.20	#VALUE!		76.67	73.34	83.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406384.44	0.34	442436.88	91.9	60 - 125		407254.69	404783.31	407115.34
45 Sc # 1	413745.13	0.18	456299.72	90.7	60 - 125		413906.44	414413.31	412915.56
45 Sc # 3	689101.94	0.70	765061.25	90.1	60 - 125		684539.00	688593.44	694173.25
74 Ge # 1	144568.94	0.19	153441.28	94.2	60 - 125		144748.19	144252.08	144706.56
74 Ge # 2	42931.10	1.44	47804.94	89.8	60 - 125		42552.81	42595.09	43645.38
74 Ge # 3	209649.91	0.46	224564.78	93.4	60 - 125		209058.72	210759.86	209131.14
89 Y # 3	1241698.90	1.02	1302847.50	95.3	60 - 125		1227073.50	1248130.30	1249892.80
115 In # 3	1301694.00	0.52	1366177.60	95.3	60 - 125		1300040.90	1309201.50	1295839.30
159 Tb # 3	1900551.40	0.55	2052817.90	92.6	60 - 125		1892667.90	1912477.60	1896508.30
209 Bi # 3	1280655.50	1.03	1405468.50	91.1	60 - 125		1269464.00	1295128.60	1277373.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\228SMPL.D\228SMPL.D#
 Date Acquired: Aug 25 2014 02:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-9-b
 Misc Info: 3005 1/5
 Vial Number: 4108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01243	0.01243	ug/l	32.91	100.00		30.00	20.00	16.67
11 B # 3	3.496	3.496	ug/l	2.77	1800.00		6711.32	7008.14	6888.05
23 Na # 1	866.7	866.7	ug/l	13.36	81000.00		2604241.30	2539159.30	2568388.00
24 Mg # 1	191.8	191.8	ug/l	11.82	81000.00		387320.88	389195.72	386759.25
27 Al # 1	73.95	73.95	ug/l	12.52	81000.00		178700.98	181604.16	174822.03
39 K # 2	336.4	336.4	ug/l	0.36	81000.00		114702.80	114974.54	117023.83
40 Ca # 1	183.5	183.5	ug/l	12.31	81000.00		1041277.30	1033721.90	1040080.60
47 Ti # 3	0.2672	0.2672	ug/l	20.31	1620.00		383.36	306.69	410.03
51 V # 2	0.133	0.133	ug/l	12.23	1800.00		520.01	567.79	501.12
52 Cr # 2	0.0875	0.0875	ug/l	5.16	1800.00		557.79	535.57	566.68
55 Mn # 3	0.6102	0.6102	ug/l	0.88	1800.00		12157.68	11967.47	12184.27
56 Fe # 1	101.6	101.6	ug/l	13.20	81000.00		748724.00	731898.81	733360.38
59 Co # 3	0.009278	0.009278	ug/l	31.68	1800.00		163.34	166.67	233.34
60 Ni # 2	0.1201	0.1201	ug/l	2.10	1800.00		174.45	171.11	180.00
63 Cu # 2	-0.03845	-0.03845	ug/l	11.75	1800.00		263.34	283.34	296.67
66 Zn # 3	0.2046	0.2046	ug/l	12.56	1800.00		1026.73	926.72	996.72
75 As # 2	0.06285	0.06285	ug/l	22.78	100.00		28.00	34.33	37.67
78 Se # 1	-0.02967	-0.02967	ug/l	44.86	100.00		12.00	12.67	8.33
88 Sr # 3	1.937	1.937	ug/l	0.15	1800.00		46073.24	46240.45	46213.52
95 Mo # 3	-0.01235	-0.01235	ug/l	10.76	1800.00		70.00	60.00	63.34
107 Ag # 3	-0.004332	-0.004332	ug/l	4.52	100.00		73.34	73.34	70.00
111 Cd # 3	0.01039	0.01039	ug/l	61.21	100.00		13.32	39.99	36.65
118 Sn # 3	0.5282	0.5282	ug/l	2.18	1800.00		4387.34	4497.40	4554.04
121 Sb # 3	0.007134	0.007134	ug/l	61.49	100.00		143.34	73.34	83.34
137 Ba # 3	8.674	8.674	ug/l	0.47	1800.00		33273.25	32869.03	33146.30
202 Hg # 3	-0.01178	-0.01178	ug/l	7.50	5.00		85.33	81.00	83.33
205 Tl # 3	0.002372	0.002372	ug/l	20.17	20.00		233.34	260.01	250.01
208 Pb # 3	0.1281	0.1281	ug/l	2.35	1800.00		5780.57	5737.29	5883.96
232 Th # 3	0.05724	0.05724	ug/l	2.19	#VALUE!		2413.60	2460.28	2546.98
238 U # 3	0.01342	0.01342	ug/l	1.96	#VALUE!		553.36	566.70	580.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	395092.50	0.28	442436.88	89.3	60 - 125		394029.25	396264.47	394983.75
45 Sc # 1	377291.13	11.21	456299.72	82.7	60 - 125		329646.72	391789.44	410437.25
45 Sc # 3	679369.81	0.23	765061.25	88.8	60 - 125		680212.88	680311.44	677584.94
74 Ge # 1	132957.02	10.92	153441.28	86.7	60 - 125		116257.47	139983.70	142629.88
74 Ge # 2	41477.40	1.41	47804.94	86.8	60 - 125		41042.72	41246.53	42142.97
74 Ge # 3	205448.95	0.20	224564.78	91.5	60 - 125		205549.08	204999.66	205798.13
89 Y # 3	1223313.30	0.27	1302847.50	93.9	60 - 125		1219892.90	1223595.10	1226451.90
115 In # 3	1278798.60	0.25	1366177.60	93.6	60 - 125		1279128.50	1275445.30	1281822.30
159 Tb # 3	1882479.80	0.64	2052817.90	91.7	60 - 125		1874752.50	1896464.50	1876222.00
209 Bi # 3	1288016.50	1.37	1405468.50	91.6	60 - 125		1285220.30	1271937.80	1306891.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\229SMPL.D\229SMPL.D#
 Date Acquired: Aug 25 2014 02:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-9-bSD
 Misc Info: 3005 1/25
 Vial Number: 4109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.02613	0.005226	ug/l	63.91	100.00		3.33	13.33	13.33
11 B # 3	7.41	1.482	ug/l	4.35	1800.00		4260.56	4173.89	4137.20
23 Na # 1	809	161.8	ug/l	1.35	81000.00		598703.25	591186.31	593116.56
24 Mg # 1	191.55	38.31	ug/l	1.45	81000.00		86011.63	84257.11	85479.24
27 Al # 1	81.45	16.29	ug/l	7.61	81000.00		46174.82	40417.31	45432.86
39 K # 2	319.35	63.87	ug/l	3.15	81000.00		32017.59	31630.49	31967.49
40 Ca # 1	205.35	41.07	ug/l	1.05	81000.00		273046.72	270508.44	271408.66
47 Ti # 3	0.37425	0.07485	ug/l	15.58	1620.00		176.67	183.34	160.01
51 V # 2	0.09615	0.01923	ug/l	42.74	1800.00		253.34	283.34	243.34
52 Cr # 2	-0.004113	-0.0008226	ug/l	455.26	1800.00		286.67	298.89	315.56
55 Mn # 3	1.1935	0.2387	ug/l	4.11	1800.00		5704.39	5354.24	5671.01
56 Fe # 1	100.45	20.09	ug/l	1.20	81000.00		163536.42	162584.66	161367.14
59 Co # 3	0.00759	0.001518	ug/l	124.37	1800.00		110.00	83.34	60.00
60 Ni # 2	0.49985	0.09997	ug/l	14.13	1800.00		151.11	142.22	173.34
63 Cu # 2	-0.2793	-0.05586	ug/l	3.43	1800.00		224.45	241.11	232.23
66 Zn # 3	-0.0754	-0.01508	ug/l	187.07	1800.00		553.36	613.36	510.02
75 As # 2	0.0452	0.00904	ug/l	49.44	100.00		15.67	18.33	15.67
78 Se # 1	-0.18055	-0.03611	ug/l	34.67	100.00		7.00	11.00	13.00
88 Sr # 3	2.039	0.4078	ug/l	1.77	1800.00		9649.52	9762.94	10159.84
95 Mo # 3	-0.0914	-0.01828	ug/l	15.12	1800.00		46.67	30.00	50.00
107 Ag # 3	-0.02966	-0.005932	ug/l	12.29	100.00		60.00	60.00	46.67
111 Cd # 3	0.008125	0.001625	ug/l	88.37	100.00		9.99	6.66	13.32
118 Sn # 3	0.34535	0.06907	ug/l	10.84	1800.00		1220.08	1210.08	1123.40
121 Sb # 3	0.00784	0.001568	ug/l	112.50	100.00		53.33	66.67	36.67
137 Ba # 3	9.285	1.857	ug/l	4.46	1800.00		6848.25	7378.45	7215.05
202 Hg # 3	-0.031085	-0.006217	ug/l	35.55	5.00		93.67	106.67	99.33
205 Tl # 3	-0.014485	-0.002897	ug/l	18.27	20.00		100.00	126.67	113.34
208 Pb # 3	0.030365	0.006073	ug/l	21.29	1800.00		1540.08	1533.41	1616.75
232 Th # 3	0.1073	0.02146	ug/l	7.86	#VALUE!		1140.08	1093.41	1026.73
238 U # 3	0.0136	0.00272	ug/l	33.74	#VALUE!		143.34	96.67	170.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	397631.59	0.61	442436.88	89.9	60 - 125		395574.16	397017.34	400303.34
45 Sc # 1	407701.94	0.52	456299.72	89.3	60 - 125		405295.44	408499.50	409310.78
45 Sc # 3	674815.25	0.29	765061.25	88.2	60 - 125		674235.06	677022.06	673188.75
74 Ge # 1	141866.09	0.36	153441.28	92.5	60 - 125		142049.75	142256.64	141291.89
74 Ge # 2	42030.13	1.50	47804.94	87.9	60 - 125		41303.18	42380.28	42406.92
74 Ge # 3	205964.47	0.53	224564.78	91.7	60 - 125		205785.67	204964.92	207142.80
89 Y # 3	1225097.10	1.43	1302847.50	94.0	60 - 125		1205397.00	1231151.50	1238742.80
115 In # 3	1285006.40	0.67	1366177.60	94.1	60 - 125		1292913.80	1275737.80	1286367.30
159 Tb # 3	1880694.80	0.15	2052817.90	91.6	60 - 125		1882016.60	1877490.40	1882577.50
209 Bi # 3	1277646.90	0.71	1405468.50	90.9	60 - 125		1270221.50	1275048.50	1287670.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\230SMPL.D\230SMPL.D#
 Date Acquired: Aug 25 2014 02:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-9-bPDS
 Misc Info: 3005 1/5
 Vial Number: 4110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnoxm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	20.6	20.6	ug/l	1.06	100.00		35703.06	35579.47	36080.27
11 B # 3	44.44	44.44	ug/l	1.18	1800.00		63038.79	62453.55	63142.77
23 Na # 1	3071	3071	ug/l	25.77	81000.00		9397311.00	9811948.00	9665001.00
24 Mg # 1	2402	2402	ug/l	26.06	81000.00		5084461.00	5366014.50	5240731.50
27 Al # 1	302.1	302.1	ug/l	26.71	81000.00		745214.06	798689.81	798769.94
39 K # 2	2409	2409	ug/l	0.67	81000.00		769736.44	765482.69	774059.88
40 Ca # 1	2445	2445	ug/l	25.65	81000.00		14317126.00	14967693.00	14681766.00
47 Ti # 3	21.97	21.97	ug/l	1.42	1620.00		22630.81	22560.67	23121.42
51 V # 2	20.79	20.79	ug/l	0.17	1800.00		50987.93	51169.51	51186.27
52 Cr # 2	21.05	21.05	ug/l	0.13	1800.00		62484.80	62786.93	62966.52
55 Mn # 3	219.6	219.6	ug/l	0.28	1800.00		3930651.30	3933668.30	3941696.50
56 Fe # 1	2453	2453	ug/l	26.26	81000.00		18575434.00	19688774.00	19155594.00
59 Co # 3	21	21	ug/l	0.55	1800.00		284367.09	284234.16	286321.81
60 Ni # 2	21.59	21.59	ug/l	0.96	1800.00		23899.87	23599.54	23865.42
63 Cu # 2	21.01	21.01	ug/l	0.35	1800.00		63435.93	64123.98	63716.95
66 Zn # 3	22.17	22.17	ug/l	0.45	1800.00		44364.06	44183.77	44357.54
75 As # 2	20.98	20.98	ug/l	0.50	100.00		6700.91	6756.59	6810.95
78 Se # 1	21.57	21.57	ug/l	21.45	100.00		5205.09	5330.79	5396.81
88 Sr # 3	22	22	ug/l	0.60	1800.00		530028.31	530995.69	530704.38
95 Mo # 3	20.63	20.63	ug/l	0.66	1800.00		78597.45	79638.32	79246.28
107 Ag # 3	20.3	20.3	ug/l	1.11	100.00		217831.25	218751.92	216108.25
111 Cd # 3	20.74	20.74	ug/l	1.58	100.00		48647.95	47668.43	47741.84
118 Sn # 3	21.11	21.11	ug/l	0.64	1800.00		154593.16	153443.13	154560.03
121 Sb # 3	20.61	20.61	ug/l	0.72	100.00		180168.56	179625.83	179554.86
137 Ba # 3	29.57	29.57	ug/l	0.26	1800.00		113697.90	113568.02	114936.41
202 Hg # 3	1.004	1.004	ug/l	1.02	5.00		3160.32	3180.00	3170.99
205 Tl # 3	4.137	4.137	ug/l	0.99	20.00		105962.27	106774.28	106878.55
208 Pb # 3	21.04	21.04	ug/l	0.67	1800.00		738819.13	737622.25	737572.06
232 Th # 3	21.62	21.62	ug/l	0.83	#VALUE!		815443.81	814495.38	819209.75
238 U # 3	20.59	20.59	ug/l	1.02	#VALUE!		810916.31	805502.25	812424.63

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	401590.63	0.61	442436.88	90.8	60 - 125		399153.00	404065.56	401553.28
45 Sc # 1	421618.19	25.02	456299.72	92.4	60 - 125		537644.25	331382.59	395827.69
45 Sc # 3	701205.06	0.19	765061.25	91.7	60 - 125		700032.25	702657.38	700925.63
74 Ge # 1	145757.41	20.84	153441.28	95.0	60 - 125		178099.97	117855.71	141316.55
74 Ge # 2	42278.87	0.38	47804.94	88.4	60 - 125		42092.92	42363.52	42380.16
74 Ge # 3	209018.38	0.21	224564.78	93.1	60 - 125		208747.52	209523.22	208784.39
89 Y # 3	1240850.30	0.66	1302847.50	95.2	60 - 125		1236715.80	1250327.10	1235507.60
115 In # 3	1293819.10	0.56	1366177.60	94.7	60 - 125		1287612.30	1292028.40	1301816.80
159 Tb # 3	1898970.80	0.70	2052817.90	92.5	60 - 125		1906602.90	1883592.90	1906716.40
209 Bi # 3	1262796.00	0.57	1405468.50	89.8	60 - 125		1260007.50	1271014.00	1257366.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\231SMPL.D\231SMPL.D#
 Date Acquired: Aug 25 2014 02:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-9-c ms
 Misc Info: 3005 1/5
 Vial Number: 4111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.71	10.71	ug/l	2.72	100.00		19156.46	19143.08	18479.09
11 B # 3	46	46	ug/l	1.11	1800.00		66376.22	66196.09	65824.97
23 Na # 1	1849	1849	ug/l	2.14	81000.00		6254951.50	6147613.50	6162771.50
24 Mg # 1	1254	1254	ug/l	0.78	81000.00		2883580.00	2910668.30	2913298.80
27 Al # 1	1149	1149	ug/l	1.22	81000.00		3146982.50	3170775.30	3152765.00
39 K # 2	1416	1416	ug/l	0.50	81000.00		469345.19	469365.81	469431.19
40 Ca # 1	1280	1280	ug/l	1.47	81000.00		8170141.50	8169345.00	8137805.50
47 Ti # 3	21.71	21.71	ug/l	1.90	1620.00		22487.31	22200.25	23128.06
51 V # 2	21.03	21.03	ug/l	0.61	1800.00		53172.88	52726.06	53201.82
52 Cr # 2	21.48	21.48	ug/l	0.08	1800.00		65450.31	65558.59	66017.98
55 Mn # 3	112.3	112.3	ug/l	0.45	1800.00		2038399.10	2033014.10	2060729.10
56 Fe # 1	1232	1232	ug/l	1.57	81000.00		10251414.00	10228942.00	10189257.00
59 Co # 3	10.79	10.79	ug/l	0.47	1800.00		148460.11	147838.89	149860.20
60 Ni # 2	21.85	21.85	ug/l	1.40	1800.00		24847.81	24820.00	24440.64
63 Cu # 2	21.24	21.24	ug/l	0.81	1800.00		66459.77	65692.68	66256.90
66 Zn # 3	21.15	21.15	ug/l	0.42	1800.00		42599.91	42920.75	43311.71
75 As # 2	21.8	21.8	ug/l	1.27	100.00		7269.78	7178.42	7159.75
78 Se # 1	21.3	21.3	ug/l	2.57	100.00		5542.52	5521.51	5478.83
88 Sr # 3	22	22	ug/l	1.05	1800.00		529360.75	537739.13	539575.19
95 Mo # 3	21.21	21.21	ug/l	0.75	1800.00		80749.84	81617.01	81134.79
107 Ag # 3	10.65	10.65	ug/l	0.95	100.00		113620.02	113760.12	114192.81
111 Cd # 3	10.65	10.65	ug/l	1.97	100.00		24119.30	25130.71	24573.37
118 Sn # 3	43.7	43.7	ug/l	0.72	1800.00		316545.13	318848.81	317678.19
121 Sb # 3	10.77	10.77	ug/l	0.91	100.00		93958.01	93464.56	93890.86
137 Ba # 3	29.76	29.76	ug/l	1.40	1800.00		115160.71	113366.27	114933.17
202 Hg # 3	0.9722	0.9722	ug/l	0.22	5.00		3111.31	3096.64	3091.31
205 Tl # 3	8.304	8.304	ug/l	0.43	20.00		215835.86	215021.92	215809.20
208 Pb # 3	10.72	10.72	ug/l	0.79	1800.00		377570.63	381761.06	381127.91
232 Th # 3	10.81	10.81	ug/l	0.30	#VALUE!		409400.16	411987.94	410272.81
238 U # 3	10.62	10.62	ug/l	0.43	#VALUE!		416610.78	420817.91	421570.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408554.69	0.73	442436.88	92.3	60 - 125		408191.06	405776.66	411696.34
45 Sc # 1	428780.84	1.27	456299.72	94.0	60 - 125		423253.63	428965.97	434123.03
45 Sc # 3	704380.00	0.21	765061.25	92.1	60 - 125		703938.44	703151.56	706050.00
74 Ge # 1	148764.75	1.98	153441.28	97.0	60 - 125		145656.67	149114.28	151523.30
74 Ge # 2	43378.47	0.49	47804.94	90.7	60 - 125		43193.26	43329.09	43613.05
74 Ge # 3	212233.00	0.42	224564.78	94.5	60 - 125		211404.97	212129.95	213164.06
89 Y # 3	1252866.00	1.02	1302847.50	96.2	60 - 125		1243753.80	1267519.00	1247325.30
115 In # 3	1290510.30	0.71	1366177.60	94.5	60 - 125		1293457.00	1297837.00	1280236.60
159 Tb # 3	1915847.00	0.31	2052817.90	93.3	60 - 125		1919954.50	1918463.10	1909123.90
209 Bi # 3	1269800.90	0.62	1405468.50	90.3	60 - 125		1262146.50	1277766.00	1269489.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\232SMPL.D\232SMPL.D#
 Date Acquired: Aug 25 2014 02:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-9-d msd
 Misc Info: 3005 1/5
 Vial Number: 4112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.8	10.8	ug/l	2.60	100.00		19733.63	19229.87	18769.41
11 B # 3	46.67	46.67	ug/l	0.36	1800.00		67309.71	67601.02	67834.41
23 Na # 1	1903	1903	ug/l	0.91	81000.00		6292548.00	6297124.50	6418173.00
24 Mg # 1	1283	1283	ug/l	0.18	81000.00		2928112.50	2967899.00	2968212.80
27 Al # 1	1238	1238	ug/l	1.63	81000.00		3418237.00	3343733.30	3387077.30
39 K # 2	1421	1421	ug/l	0.56	81000.00		476060.50	477965.94	476755.16
40 Ca # 1	1319	1319	ug/l	0.40	81000.00		8302240.00	8359675.00	8435970.00
47 Ti # 3	21.84	21.84	ug/l	0.83	1620.00		23021.24	23231.48	22847.80
51 V # 2	21.25	21.25	ug/l	0.33	1800.00		54252.65	54281.66	54373.06
52 Cr # 2	21.43	21.43	ug/l	0.58	1800.00		66640.16	66376.99	66134.95
55 Mn # 3	114.1	114.1	ug/l	0.49	1800.00		2082694.50	2095982.60	2081692.90
56 Fe # 1	1264	1264	ug/l	0.41	81000.00		10382992.00	10420066.00	10509855.00
59 Co # 3	10.97	10.97	ug/l	1.16	1800.00		152914.83	152158.94	150950.53
60 Ni # 2	22.29	22.29	ug/l	0.76	1800.00		25358.55	25606.64	25625.50
63 Cu # 2	21.95	21.95	ug/l	0.88	1800.00		69586.72	69371.52	68735.74
66 Zn # 3	21.36	21.36	ug/l	2.46	1800.00		44434.26	42897.29	43391.94
75 As # 2	21.55	21.55	ug/l	0.93	100.00		7149.74	7242.78	7246.11
78 Se # 1	21.85	21.85	ug/l	0.35	100.00		5579.20	5643.88	5669.56
88 Sr # 3	22.19	22.19	ug/l	0.47	1800.00		547313.50	550564.25	545541.31
95 Mo # 3	21.14	21.14	ug/l	0.38	1800.00		82015.63	82883.05	83047.04
107 Ag # 3	10.58	10.58	ug/l	0.11	100.00		114350.43	116330.49	115927.56
111 Cd # 3	10.69	10.69	ug/l	0.37	100.00		24820.12	25427.53	25380.77
118 Sn # 3	43.54	43.54	ug/l	0.70	1800.00		322107.84	323500.53	324475.84
121 Sb # 3	10.67	10.67	ug/l	0.79	100.00		94514.23	95647.00	94517.23
137 Ba # 3	29.82	29.82	ug/l	0.92	1800.00		116960.16	116922.81	117722.11
202 Hg # 3	0.9675	0.9675	ug/l	1.58	5.00		3039.30	3137.31	3159.66
205 Tl # 3	8.367	8.367	ug/l	0.75	20.00		219271.81	217916.97	219919.16
208 Pb # 3	10.84	10.84	ug/l	1.10	1800.00		388197.06	387744.53	387165.50
232 Th # 3	10.97	10.97	ug/l	0.88	#VALUE!		420366.97	417759.72	419380.81
238 U # 3	10.71	10.71	ug/l	0.72	#VALUE!		425940.81	424258.44	427198.16

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	411749.91	0.19	442436.88	93.1	60 - 125		411011.72	412598.22	411639.78
45 Sc # 1	426622.94	0.62	456299.72	93.5	60 - 125		423603.59	427899.19	428366.09
45 Sc # 3	713560.31	0.72	765061.25	93.3	60 - 125		708130.56	718287.44	714262.88
74 Ge # 1	148069.73	0.53	153441.28	96.5	60 - 125		147164.48	148519.38	148525.31
74 Ge # 2	43949.07	0.37	47804.94	91.9	60 - 125		44002.86	43767.90	44076.47
74 Ge # 3	213353.48	0.62	224564.78	95.0	60 - 125		211856.06	214389.19	213815.20
89 Y # 3	1270166.10	0.71	1302847.50	97.5	60 - 125		1275549.00	1275127.60	1259821.60
115 In # 3	1318218.40	0.98	1366177.60	96.5	60 - 125		1303386.00	1327127.10	1324142.10
159 Tb # 3	1932319.50	0.97	2052817.90	94.1	60 - 125		1919405.00	1923700.40	1953853.30
209 Bi # 3	1277388.10	0.60	1405468.50	90.9	60 - 125		1268492.30	1281797.80	1281874.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\233_QCS.D\233_QCS.D#
 Date Acquired: Aug 25 2014 02:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	14.32	0.10 69.5 - 130	
11 B	20.33 ug/l	1.87	20.00 69.5 - 130	
23 Na	45.30 ug/l	1.03	50.00 69.5 - 130	
24 Mg	56.28 ug/l	1.38	50.00 69.5 - 130	
27 Al	11.14 ug/l	1.41	10.00 69.5 - 130	
39 K	42.28 ug/l	1.78	50.00 69.5 - 130	
40 Ca	59.49 ug/l	0.26	50.00 69.5 - 130	
47 Ti	0.93 ug/l	4.27	1.00 69.5 - 130	
51 V	0.99 ug/l	1.09	1.00 69.5 - 130	
52 Cr	1.00 ug/l	2.35	1.00 69.5 - 130	
55 Mn	1.05 ug/l	1.26	1.00 69.5 - 130	
56 Fe	23.03 ug/l	0.64	20.00 69.5 - 130	
59 Co	0.10 ug/l	4.00	0.10 69.5 - 130	
60 Ni	1.04 ug/l	3.79	1.00 69.5 - 130	
63 Cu	0.99 ug/l	0.49	1.00 69.5 - 130	
66 Zn	4.04 ug/l	3.24	4.00 69.5 - 130	
75 As	0.49 ug/l	2.21	0.50 69.5 - 130	
78 Se	0.43 ug/l	5.98	0.50 69.5 - 130	
88 Sr	0.19 ug/l	2.86	0.20 69.5 - 130	
95 Mo	0.99 ug/l	0.78	1.00 69.5 - 130	
107 Ag	0.19 ug/l	4.44	0.20 69.5 - 130	
111 Cd	0.09 ug/l	16.43	0.10 69.5 - 130	
118 Sn	1.06 ug/l	3.22	1.00 69.5 - 130	
121 Sb	0.96 ug/l	4.33	1.00 69.5 - 130	
137 Ba	0.99 ug/l	3.07	1.00 69.5 - 130	
202 Hg	0.16 ug/l	5.05	0.16 69.5 - 130	
205 Tl	0.21 ug/l	2.27	0.20 69.5 - 130	
208 Pb	0.27 ug/l	5.44	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	421404.81	0.23	442436.88	95.2	60 - 125		
45 Sc	428141.38	0.27	456299.72	93.8	60 - 125		
45 Sc	725839.50	0.50	765061.25	94.9	60 - 125		
74 Ge	149140.08	0.47	153441.28	97.2	60 - 125		
74 Ge	44518.15	0.34	47804.94	93.1	60 - 125		
74 Ge	218634.69	0.31	224564.78	97.4	60 - 125		
89 Y	1282089.80	0.65	1302847.50	98.4	60 - 125		
115 In	1344062.80	0.85	1366177.60	98.4	60 - 125		
159 Tb	1944551.30	0.06	2052817.90	94.7	60 - 125		
209 Bi	1290465.30	1.10	1405468.50	91.8	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\234_CCV.D\234_CCV.D#
 Date Acquired: Aug 25 2014 02:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.85 ug/l	0.17	50.00	89.5 - 110		89493.34	89476.59	89239.19
11 B	95.16 ug/l	0.13	100.00	89.5 - 110		139621.83	139273.47	138679.69
23 Na	5157 ug/l	0.17	5000.00	89.5 - 110		17722730.00	17493954.00	17498790.00
24 Mg	5100 ug/l	0.26	5000.00	89.5 - 110		12183460.00	12071243.00	12113783.00
27 Al	522.6 ug/l	0.58	500.00	89.5 - 110		1480026.60	1467618.10	1480463.40
39 K	4893 ug/l	1.70	5000.00	89.5 - 110		1677560.40	1686000.40	1710847.10
40 Ca	5237 ug/l	0.56	5000.00	89.5 - 110		34237796.00	34263164.00	34177648.00
47 Ti	50.77 ug/l	1.81	50.00	89.5 - 110		55987.21	55783.46	56067.80
51 V	48.89 ug/l	1.53	50.00	89.5 - 110		129667.18	130905.85	131644.03
52 Cr	48.81 ug/l	1.30	50.00	89.5 - 110		157510.31	157662.38	159368.63
55 Mn	507.8 ug/l	1.13	500.00	89.5 - 110		9698481.00	9574815.00	9661969.00
56 Fe	5361 ug/l	0.20	5000.00	89.5 - 110		45915940.00	45653484.00	45528040.00
59 Co	49.34 ug/l	0.41	50.00	89.5 - 110		705634.81	711129.44	711911.94
60 Ni	49.96 ug/l	1.29	50.00	89.5 - 110		59656.56	59911.77	60324.18
63 Cu	48.75 ug/l	0.94	50.00	89.5 - 110		160515.06	160743.94	161090.17
66 Zn	49.65 ug/l	0.71	50.00	89.5 - 110		103778.43	104327.86	105072.07
75 As	49.51 ug/l	1.69	50.00	89.5 - 110		17239.45	17276.48	17579.44
78 Se	50.24 ug/l	1.32	50.00	89.5 - 110		13340.22	13538.38	13223.14
88 Sr	48.7 ug/l	0.31	50.00	89.5 - 110		1218620.90	1238155.40	1237728.50
95 Mo	49.93 ug/l	1.17	50.00	89.5 - 110		197472.81	198367.45	199012.67
107 Ag	48.02 ug/l	1.11	50.00	89.5 - 110		537458.38	530404.50	531022.00
111 Cd	48.98 ug/l	1.03	50.00	89.5 - 110		118485.88	116992.73	116858.32
118 Sn	49.21 ug/l	1.13	50.00	89.5 - 110		372101.25	370241.69	372044.09
121 Sb	48.69 ug/l	1.54	50.00	89.5 - 110		439979.94	436971.75	442672.66
137 Ba	48.65 ug/l	1.01	50.00	89.5 - 110		193408.25	195022.28	194748.45
202 Hg	2.452 ug/l	0.96	2.50	89.5 - 110		7716.21	7818.59	7828.93
205 Tl	9.59 ug/l	0.33	10.00	89.5 - 110		254187.13	253258.36	254193.84
208 Pb	47.84 ug/l	0.18	50.00	89.5 - 110		1724752.00	1729646.90	1720244.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	423102.56	0.27	442436.88	95.6	60 - 125		424338.31	422845.81	422123.53
45 Sc	440608.47	0.59	456299.72	96.6	60 - 125		443583.88	439257.28	438984.19
45 Sc	747678.44	1.55	765061.25	97.7	60 - 125		744522.63	760545.75	737966.81
74 Ge	153176.73	0.27	153441.28	99.8	60 - 125		153645.16	152855.61	153029.45
74 Ge	46105.83	0.78	47804.94	96.4	60 - 125		46520.22	45929.82	45867.45
74 Ge	221611.56	0.47	224564.78	98.7	60 - 125		220763.77	222770.56	221300.31
89 Y	1301438.00	0.61	1302847.50	99.9	60 - 125		1292332.50	1307213.50	1304768.10
115 In	1340391.40	0.90	1366177.60	98.1	60 - 125		1342639.00	1351143.10	1327392.10
159 Tb	1954017.00	0.19	2052817.90	95.2	60 - 125		1956763.30	1955455.00	1949832.60
209 Bi	1285347.80	1.48	1405468.50	91.5	60 - 125		1265259.90	1302961.90	1287821.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\235_CCB.D\235_CCB.D#
 Date Acquired: Aug 25 2014 02:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003699	0.003699	ug/l	103.14	#VALUE!		10.00	0.00	13.33
11 B #3	1.91	1.91	ug/l	5.30	#VALUE!		5024.11	5210.84	4907.40
23 Na #1	-9.458	-9.458	ug/l	1.82	#VALUE!		60538.95	59632.68	59512.31
24 Mg #1	-0.03889	-0.03889	ug/l	115.33	#VALUE!		1060.06	916.71	853.38
27 Al #1	-0.0478	-0.0478	ug/l	39.83	#VALUE!		1496.77	1413.43	1393.43
39 K #2	-9.314	-9.314	ug/l	1.11	#VALUE!		9646.10	9626.04	9669.42
40 Ca #1	0.344	0.344	ug/l	6.84	#VALUE!		26655.96	27053.26	26622.69
47 Ti #3	-0.05342	-0.05342	ug/l	33.56	#VALUE!		26.67	60.00	60.00
51 V #2	-0.01311	-0.01311	ug/l	29.82	#VALUE!		196.67	202.23	184.45
52 Cr #2	-0.01288	-0.01288	ug/l	47.95	#VALUE!		267.78	276.67	307.78
55 Mn #3	0.04061	0.04061	ug/l	35.04	#VALUE!		1900.16	2423.56	2290.21
56 Fe #1	0.5599	0.5599	ug/l	6.58	#VALUE!		9205.87	8755.63	8572.23
59 Co #3	0.002491	0.002491	ug/l	59.62	#VALUE!		126.67	96.67	86.67
60 Ni #2	-0.004063	-0.004063	ug/l	159.51	#VALUE!		40.00	53.33	41.11
63 Cu #2	-0.05017	-0.05017	ug/l	0.96	#VALUE!		267.78	267.78	267.78
66 Zn #3	-0.06767	-0.06767	ug/l	51.59	#VALUE!		406.68	496.69	550.02
75 As #2	0.0006692	0.0006692	ug/l	958.31	#VALUE!		12.33	16.00	16.33
78 Se #1	-0.02852	-0.02852	ug/l	13.27	#VALUE!		12.33	12.33	14.00
88 Sr #3	0.004176	0.004176	ug/l	14.56	#VALUE!		273.34	256.68	250.01
95 Mo #3	0.03759	0.03759	ug/l	25.48	#VALUE!		293.35	223.34	283.34
107 Ag #3	0.002012	0.002012	ug/l	169.88	#VALUE!		133.34	116.67	190.01
111 Cd #3	0.005563	0.005563	ug/l	65.36	#VALUE!		13.27	16.62	29.94
118 Sn #3	0.1222	0.1222	ug/l	5.98	#VALUE!		1690.14	1586.79	1646.80
121 Sb #3	0.02201	0.02201	ug/l	17.66	#VALUE!		260.01	260.01	200.01
137 Ba #3	0.000538	0.000538	ug/l	236.99	#VALUE!		40.00	46.67	36.67
202 Hg #3	0.0186	0.0186	ug/l	28.76	#VALUE!		169.00	197.34	174.00
205 Tl #3	-0.0003291	-0.0003291	ug/l	207.32	#VALUE!		166.67	200.01	186.67
208 Pb #3	-0.01862	-0.01862	ug/l	4.52	#VALUE!		766.70	700.03	723.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	420852.94	0.19	442436.88	95.1	60 - 125		420320.03	421751.81	420486.91
45 Sc #1	426849.97	0.62	456299.72	93.5	60 - 125		427479.84	429115.41	423954.75
45 Sc #3	716248.81	0.96	765061.25	93.6	60 - 125		708581.56	718298.00	721866.75
74 Ge #1	149822.45	0.49	153441.28	97.6	60 - 125		150653.03	149240.77	149573.58
74 Ge #2	45091.08	0.58	47804.94	94.3	60 - 125		45029.82	44864.98	45378.45
74 Ge #3	218333.08	0.29	224564.78	97.2	60 - 125		217757.91	219020.94	218220.39
89 Y #3	1275787.10	1.26	1302847.50	97.9	60 - 125		1257727.00	1288395.80	1281238.60
115 In #3	1344957.00	0.34	1366177.60	98.4	60 - 125		1340017.50	1345736.60	1349116.90
159 Tb #3	1941597.30	0.81	2052817.90	94.6	60 - 125		1948619.80	1923495.40	1952677.00
209 Bi #3	1292720.60	0.67	1405468.50	92.0	60 - 125		1292300.60	1284317.90	1301543.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\236ICSA.D\236ICSA.D#
 Date Acquired: Aug 25 2014 03:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.009649 ug/l	29.77	---	
11 B	1.485 ug/l	5.84	---	
23 Na	98240 ug/l	0.55	1.20	
24 Mg	96360 ug/l	0.54	1.20	
27 Al	97040 ug/l	0.51	1.20	
39 K	98200 ug/l	0.48	1.20	
40 Ca	103400 ug/l	0.19	1.20	
47 Ti	2004 ug/l	0.89	1.20	
51 V	0.02396 ug/l	39.73	---	
52 Cr	1.265 ug/l	1.04	---	
55 Mn	0.6016 ug/l	4.15	---	
56 Fe	99210 ug/l	0.69	1.20	
59 Co	0.09838 ug/l	6.51	---	
60 Ni	0.1842 ug/l	9.69	---	
63 Cu	0.4856 ug/l	3.24	---	
66 Zn	1.641 ug/l	1.58	---	
75 As	0.08153 ug/l	9.23	---	
78 Se	0.005203 ug/l	116.28	---	
88 Sr	0.6026 ug/l	0.54	---	
95 Mo	2060 ug/l	0.54	1.20	
107 Ag	0.01416 ug/l	29.85	---	
111 Cd	0.148 ug/l	19.47	---	
118 Sn	0.1139 ug/l	14.36	---	
121 Sb	0.04227 ug/l	13.57	---	
137 Ba	0.09088 ug/l	10.91	---	
202 Hg	0.01583 ug/l	18.09	---	
205 Tl	-0.001297 ug/l	82.96	---	
208 Pb	0.1422 ug/l	1.33	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	401392.84	0.82	442436.88	90.7	60 - 125		
45 Sc	427219.00	0.43	456299.72	93.6	60 - 125		
45 Sc	747669.75	1.45	765061.25	97.7	60 - 125		
74 Ge	139137.77	0.63	153441.28	90.7	60 - 125		
74 Ge	43511.33	0.80	47804.94	91.0	60 - 125		
74 Ge	209133.66	0.59	224564.78	93.1	60 - 125		
89 Y	1277790.90	0.77	1302847.50	98.1	60 - 125		
115 In	1256015.40	0.39	1366177.60	91.9	60 - 125		
159 Tb	1885757.50	0.23	2052817.90	91.9	60 - 125		
209 Bi	1052030.60	0.26	1405468.50	74.9	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\237ICSB.D\237ICSB.D#
 Date Acquired: Aug 25 2014 03:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.01 ug/l	34.19	--- ##### - #####	
11 B	1.20 ug/l	8.09	--- ##### - #####	
23 Na	98330.00 ug/l	0.44	100000.00 80 - 120	
24 Mg	95950.00 ug/l	0.70	100000.00 80 - 120	
27 Al	96720.00 ug/l	0.70	100000.00 80 - 120	
39 K	98640.00 ug/l	0.92	100000.00 80 - 120	
40 Ca	103300.00 ug/l	0.60	100000.00 80 - 120	
47 Ti	1997.00 ug/l	0.87	2000.00 80 - 120	
51 V	0.02 ug/l	25.19	--- ##### - #####	
52 Cr	21.61 ug/l	0.58	20.00 80 - 120	
55 Mn	21.47 ug/l	0.84	20.00 80 - 120	
56 Fe	99970.00 ug/l	0.80	100000.00 80 - 120	
59 Co	20.40 ug/l	1.06	20.00 80 - 120	
60 Ni	20.01 ug/l	1.31	20.00 80 - 120	
63 Cu	18.83 ug/l	0.65	20.00 80 - 120	
66 Zn	20.30 ug/l	1.69	20.00 80 - 120	
75 As	21.00 ug/l	1.14	20.00 80 - 120	
78 Se	-0.01 ug/l	356.04	--- ##### - #####	
88 Sr	0.59 ug/l	2.17	--- ##### - #####	
95 Mo	2078.00 ug/l	0.18	2000.00 80 - 120	
107 Ag	17.94 ug/l	0.48	20.00 80 - 120	
111 Cd	18.65 ug/l	0.72	20.00 80 - 120	
118 Sn	0.13 ug/l	0.97	--- ##### - #####	
121 Sb	0.04 ug/l	7.86	--- ##### - #####	
137 Ba	0.10 ug/l	3.28	--- ##### - #####	
202 Hg	0.01 ug/l	35.60	--- ##### - #####	
205 Tl	0.00 ug/l	6.18	--- ##### - #####	
208 Pb	0.15 ug/l	2.20	--- ##### - #####	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	402196.69	0.24	442436.88	90.9	60 - 125		
45 Sc	427744.28	0.49	456299.72	93.7	60 - 125		
45 Sc	751485.44	0.35	765061.25	98.2	60 - 125		
74 Ge	139361.73	0.36	153441.28	90.8	60 - 125		
74 Ge	43049.56	1.09	47804.94	90.1	60 - 125		
74 Ge	210390.20	1.14	224564.78	93.7	60 - 125		
89 Y	1293675.60	0.92	1302847.50	99.3	60 - 125		
115 In	1255368.40	0.64	1366177.60	91.9	60 - 125		
159 Tb	1875672.50	1.18	2052817.90	91.4	60 - 125		
209 Bi	1059142.10	0.18	1405468.50	75.4	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\238SMPL.D\238SMPL.D#
 Date Acquired: Aug 25 2014 03:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.004623	0.004623	ug/l	64.96	100.00		13.33	10.00	3.33
11 B # 3	0.694	0.694	ug/l	28.60	1800.00		3370.38	2890.29	3067.00
23 Na # 1	1.233	1.233	ug/l	41.96	81000.00		94018.60	91874.48	91251.91
24 Mg # 1	6.034	6.034	ug/l	11.13	81000.00		16090.39	14272.29	13181.55
27 Al # 1	6.231	6.231	ug/l	12.30	81000.00		20219.77	17751.99	16270.70
39 K # 2	-5.431	-5.431	ug/l	29.04	81000.00		10193.02	10916.79	11250.36
40 Ca # 1	6.916	6.916	ug/l	8.38	81000.00		70384.34	65078.77	63941.94
47 Ti # 3	0.3734	0.3734	ug/l	2.44	1620.00		506.69	493.35	496.69
51 V # 2	-0.003935	-0.003935	ug/l	62.57	1800.00		212.23	210.00	223.34
52 Cr # 2	-0.007465	-0.007465	ug/l	40.87	1800.00		291.12	290.01	308.90
55 Mn # 3	0.07891	0.07891	ug/l	4.91	1800.00		3000.33	2860.30	2950.32
56 Fe # 1	10.52	10.52	ug/l	6.09	81000.00		94064.02	87277.95	84428.48
59 Co # 3	0.006824	0.006824	ug/l	36.64	1800.00		166.67	200.01	130.00
60 Ni # 2	0.00675	0.00675	ug/l	48.56	1800.00		55.56	53.33	61.11
63 Cu # 2	-0.0503	-0.0503	ug/l	8.15	1800.00		266.67	273.34	250.00
66 Zn # 3	-0.06248	-0.06248	ug/l	9.64	1800.00		500.02	506.69	486.69
75 As # 2	0.007581	0.007581	ug/l	55.26	100.00		18.00	15.33	17.67
78 Se # 1	-0.03436	-0.03436	ug/l	16.30	100.00		11.33	12.33	9.67
88 Sr # 3	0.0135	0.0135	ug/l	7.93	1800.00		500.02	470.02	523.36
95 Mo # 3	0.8177	0.8177	ug/l	3.07	1800.00		3467.11	3470.44	3307.09
107 Ag # 3	0.0004776	0.0004776	ug/l	806.32	100.00		90.00	126.67	176.67
111 Cd # 3	0.005646	0.005646	ug/l	74.18	100.00		9.24	22.57	29.27
118 Sn # 3	0.07498	0.07498	ug/l	14.26	1800.00		1300.09	1376.76	1223.42
121 Sb # 3	0.007875	0.007875	ug/l	72.09	100.00		90.00	76.67	173.34
137 Ba # 3	0.02642	0.02642	ug/l	13.23	1800.00		140.01	136.67	163.34
202 Hg # 3	0.002984	0.002984	ug/l	39.51	5.00		130.00	134.34	138.33
205 Tl # 3	-0.0006283	-0.0006283	ug/l	62.17	20.00		180.01	170.01	190.01
208 Pb # 3	-0.008102	-0.008102	ug/l	31.42	1800.00		1040.05	1113.38	1230.06
232 Th # 3	0.02079	0.02079	ug/l	6.40	#VALUE!		1050.07	1136.75	1153.42
238 U # 3	0.004295	0.004295	ug/l	27.24	#VALUE!		263.34	170.01	193.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	395703.31	0.76	442436.88	89.4	60 - 125		392342.34	398173.16	396594.38
45 Sc # 1	415113.41	0.32	456299.72	91.0	60 - 125		414442.78	414237.63	416659.91
45 Sc # 3	716814.75	0.94	765061.25	93.7	60 - 125		712477.00	713428.25	724538.88
74 Ge # 1	146467.67	0.75	153441.28	95.5	60 - 125		145949.98	145730.48	147722.53
74 Ge # 2	44416.10	0.38	47804.94	92.9	60 - 125		44375.98	44272.40	44599.91
74 Ge # 3	219544.89	0.52	224564.78	97.8	60 - 125		218710.56	219087.44	220836.66
89 Y # 3	1292938.40	1.32	1302847.50	99.2	60 - 125		1273453.30	1300106.30	1305255.80
115 In # 3	1361499.40	0.47	1366177.60	99.7	60 - 125		1365960.50	1354092.50	1364445.30
159 Tb # 3	1978602.90	0.62	2052817.90	96.4	60 - 125		1965728.30	1989973.30	1980106.90
209 Bi # 3	1339788.00	0.43	1405468.50	95.3	60 - 125		1337331.90	1335657.80	1346374.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\239SMPL.D\239SMPL.D#
 Date Acquired: Aug 25 2014 03:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007015	0.0007015	ug/l	157.95	100.00		3.33	3.33	0.00
11 B # 3	0.622	0.622	ug/l	13.20	1800.00		2926.96	3126.99	3150.34
23 Na # 1	-0.9429	-0.9429	ug/l	26.31	81000.00		89273.04	87795.87	87173.31
24 Mg # 1	5.624	5.624	ug/l	2.06	81000.00		14315.68	13781.92	13962.07
27 Al # 1	5.638	5.638	ug/l	3.10	81000.00		17521.69	17121.40	16420.67
39 K # 2	-6.697	-6.697	ug/l	7.83	81000.00		10323.09	10573.46	10699.99
40 Ca # 1	6.392	6.392	ug/l	1.56	81000.00		65938.84	65547.58	64138.69
47 Ti # 3	0.1197	0.1197	ug/l	25.38	1620.00		223.34	206.67	276.68
51 V # 2	0.001711	0.001711	ug/l	472.06	1800.00		221.11	221.11	257.78
52 Cr # 2	-0.007783	-0.007783	ug/l	93.95	1800.00		273.34	317.78	310.01
55 Mn # 3	0.08109	0.08109	ug/l	4.56	1800.00		2913.65	3080.35	2996.99
56 Fe # 1	8.16	8.16	ug/l	2.88	81000.00		73770.16	72300.99	69296.28
59 Co # 3	0.006747	0.006747	ug/l	6.37	1800.00		166.67	170.01	160.01
60 Ni # 2	-0.0006344	-0.0006344	ug/l	1833.20	1800.00		54.45	58.89	33.33
63 Cu # 2	-0.04526	-0.04526	ug/l	26.38	1800.00		326.67	255.56	268.89
66 Zn # 3	-0.08998	-0.08998	ug/l	24.95	1800.00		480.02	453.35	396.68
75 As # 2	0.01457	0.01457	ug/l	33.93	100.00		17.67	20.67	20.67
78 Se # 1	-0.03919	-0.03919	ug/l	4.21	100.00		10.33	9.67	10.33
88 Sr # 3	0.01468	0.01468	ug/l	3.41	1800.00		536.69	520.02	523.36
95 Mo # 3	0.2717	0.2717	ug/l	5.52	1800.00		1236.75	1146.74	1263.42
107 Ag # 3	0.000165	0.000165	ug/l	1350.90	100.00		156.67	113.34	113.34
111 Cd # 3	0.005827	0.005827	ug/l	97.74	100.00		9.73	36.42	16.39
118 Sn # 3	0.07889	0.07889	ug/l	9.95	1800.00		1400.10	1300.10	1296.76
121 Sb # 3	0.0075	0.0075	ug/l	31.55	100.00		106.67	90.00	133.34
137 Ba # 3	0.02828	0.02828	ug/l	4.26	1800.00		150.01	153.34	160.01
202 Hg # 3	-0.0002481	-0.0002481	ug/l	1551.00	5.00		118.33	118.67	140.34
205 Tl # 3	-0.002032	-0.002032	ug/l	4.26	20.00		143.34	143.34	146.67
208 Pb # 3	0.01749	0.01749	ug/l	272.96	1800.00		4074.55	1050.05	1106.72
232 Th # 3	0.01458	0.01458	ug/l	5.90	#VALUE!		903.39	840.05	833.38
238 U # 3	0.004917	0.004917	ug/l	5.81	#VALUE!		230.01	246.68	223.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402820.31	0.61	442436.88	91.0	60 - 125		401289.00	401538.28	405633.63
45 Sc # 1	427957.00	0.50	456299.72	93.8	60 - 125		429179.09	429223.47	425468.47
45 Sc # 3	728617.81	2.10	765061.25	95.2	60 - 125		713718.13	727799.75	744335.56
74 Ge # 1	149755.03	0.46	153441.28	97.6	60 - 125		149143.61	150504.64	149616.81
74 Ge # 2	45120.04	0.21	47804.94	94.4	60 - 125		45018.68	45205.84	45135.59
74 Ge # 3	220924.23	1.01	224564.78	98.4	60 - 125		218564.84	221205.23	223002.59
89 Y # 3	1291445.30	0.70	1302847.50	99.1	60 - 125		1281135.80	1297947.30	1295252.80
115 In # 3	1363649.30	0.13	1366177.60	99.8	60 - 125		1362045.10	1363406.10	1365496.50
159 Tb # 3	2007050.40	1.24	2052817.90	97.8	60 - 125		1979668.80	2028783.30	2012499.10
209 Bi # 3	1331035.10	0.54	1405468.50	94.7	60 - 125		1338549.60	1330384.80	1324171.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\240SMPL.D\240SMPL.D#
 Date Acquired: Aug 25 2014 03:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002015	0.002015	ug/l	58.96	100.00		3.33	3.33	6.67
11 B # 3	0.6097	0.6097	ug/l	9.98	1800.00		3120.33	2963.63	2976.97
23 Na # 1	-5.104	-5.104	ug/l	62.40	81000.00		75092.87	75387.25	74939.11
24 Mg # 1	1.868	1.868	ug/l	20.78	81000.00		5537.61	5184.17	5444.24
27 Al # 1	2.006	2.006	ug/l	11.94	81000.00		7228.23	7519.70	6771.39
39 K # 2	-7.588	-7.588	ug/l	13.82	81000.00		9906.21	10589.92	10209.67
40 Ca # 1	2.309	2.309	ug/l	39.13	81000.00		40052.76	39418.23	39591.90
47 Ti # 3	0.01521	0.01521	ug/l	167.39	1620.00		150.01	93.34	126.67
51 V # 2	-0.01093	-0.01093	ug/l	50.26	1800.00		210.00	183.34	207.78
52 Cr # 2	-0.01364	-0.01364	ug/l	50.66	1800.00		261.12	304.45	280.00
55 Mn # 3	0.04585	0.04585	ug/l	10.81	1800.00		2200.20	2380.22	2260.20
56 Fe # 1	3.329	3.329	ug/l	18.67	81000.00		33337.23	30869.58	31951.26
59 Co # 3	0.001689	0.001689	ug/l	34.91	1800.00		83.34	100.00	90.00
60 Ni # 2	-0.006325	-0.006325	ug/l	38.97	1800.00		44.44	38.89	43.33
63 Cu # 2	-0.05088	-0.05088	ug/l	17.86	1800.00		281.12	281.12	234.45
66 Zn # 3	-0.06814	-0.06814	ug/l	14.75	1800.00		466.69	506.69	463.35
75 As # 2	0.009061	0.009061	ug/l	10.30	100.00		18.00	17.67	17.67
78 Se # 1	-0.04204	-0.04204	ug/l	12.44	100.00		8.33	12.33	8.33
88 Sr # 3	0.01455	0.01455	ug/l	81.17	1800.00		360.01	865.10	333.35
95 Mo # 3	0.1378	0.1378	ug/l	7.80	1800.00		713.37	640.03	650.03
107 Ag # 3	-0.001113	-0.001113	ug/l	30.59	100.00		116.67	113.34	106.67
111 Cd # 3	0.001367	0.001367	ug/l	175.79	100.00		3.18	13.19	13.19
118 Sn # 3	0.06469	0.06469	ug/l	7.40	1800.00		1173.41	1270.08	1190.08
121 Sb # 3	0.002361	0.002361	ug/l	45.32	100.00		70.00	66.67	50.00
137 Ba # 3	0.01653	0.01653	ug/l	12.40	1800.00		96.67	110.00	110.00
202 Hg # 3	-0.0007138	-0.0007138	ug/l	454.61	5.00		117.00	116.00	129.00
205 Tl # 3	-0.003947	-0.003947	ug/l	9.35	20.00		96.67	96.67	76.67
208 Pb # 3	-0.0122	-0.0122	ug/l	16.36	1800.00		973.39	910.04	1006.71
232 Th # 3	0.01227	0.01227	ug/l	11.79	#VALUE!		756.71	716.71	796.71
238 U # 3	0.002159	0.002159	ug/l	14.95	#VALUE!		126.67	126.67	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	398823.94	2.22	442436.88	90.1	60 - 125		403987.41	403861.41	388622.91
45 Sc # 1	438334.50	14.64	456299.72	96.1	60 - 125		430151.59	506196.03	378655.88
45 Sc # 3	728410.75	1.04	765061.25	95.2	60 - 125		736845.56	722259.06	726127.81
74 Ge # 1	153298.25	10.20	153441.28	99.9	60 - 125		151455.33	169777.30	138662.13
74 Ge # 2	45131.92	0.93	47804.94	94.4	60 - 125		44841.55	44939.62	45614.61
74 Ge # 3	216260.41	1.72	224564.78	96.3	60 - 125		218414.38	218405.13	211961.72
89 Y # 3	1276356.50	1.56	1302847.50	98.0	60 - 125		1284559.30	1290895.40	1253614.80
115 In # 3	1349749.00	2.25	1366177.60	98.8	60 - 125		1351835.40	1379047.10	1318364.80
159 Tb # 3	1951332.90	2.42	2052817.90	95.1	60 - 125		1956430.00	1995822.50	1901746.40
209 Bi # 3	1314933.60	2.21	1405468.50	93.6	60 - 125		1318689.40	1341986.50	1284125.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\241_CCV.D\241_CCV.D#
 Date Acquired: Aug 25 2014 03:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.23 ug/l	0.22	50.00	89.5 - 110		85334.46	85967.62	86212.13
11 B	96.87 ug/l	0.60	100.00	89.5 - 110		134502.50	133929.64	136413.59
23 Na	5086 ug/l	0.83	5000.00	89.5 - 110		16998550.00	16878340.00	17098088.00
24 Mg	5028 ug/l	1.22	5000.00	89.5 - 110		11644916.00	11710556.00	11802222.00
27 Al	511.4 ug/l	0.68	500.00	89.5 - 110		1420149.50	1405478.80	1423134.90
39 K	4870 ug/l	0.45	5000.00	89.5 - 110		1622568.30	1629770.60	1651537.50
40 Ca	5170 ug/l	0.57	5000.00	89.5 - 110		33170770.00	33164686.00	33045782.00
47 Ti	50.41 ug/l	2.30	50.00	89.5 - 110		55030.98	55629.72	54894.06
51 V	49.12 ug/l	0.97	50.00	89.5 - 110		127243.95	128119.95	127236.45
52 Cr	48.99 ug/l	0.66	50.00	89.5 - 110		154019.30	154232.36	154160.88
55 Mn	502.3 ug/l	1.21	500.00	89.5 - 110		9393731.00	9554330.00	9631738.00
56 Fe	5384 ug/l	1.07	5000.00	89.5 - 110		44806532.00	44890660.00	45301080.00
59 Co	48.59 ug/l	0.56	50.00	89.5 - 110		695028.13	697854.81	700477.25
60 Ni	49.86 ug/l	0.92	50.00	89.5 - 110		58031.32	58317.86	57970.05
63 Cu	48.96 ug/l	0.43	50.00	89.5 - 110		155636.63	156184.41	158437.70
66 Zn	48.61 ug/l	0.98	50.00	89.5 - 110		102102.21	101482.35	102629.16
75 As	49.86 ug/l	0.62	50.00	89.5 - 110		16970.21	16983.89	16990.21
78 Se	50.81 ug/l	0.50	50.00	89.5 - 110		13267.51	13279.18	13275.17
88 Sr	48.87 ug/l	0.20	50.00	89.5 - 110		1223039.30	1240347.60	1238750.00
95 Mo	49.69 ug/l	0.55	50.00	89.5 - 110		196549.66	196479.11	199055.02
107 Ag	48.07 ug/l	0.63	50.00	89.5 - 110		533682.44	532217.31	534900.06
111 Cd	48.77 ug/l	0.49	50.00	89.5 - 110		115616.98	117788.34	117505.67
118 Sn	49.55 ug/l	0.36	50.00	89.5 - 110		372405.94	373220.03	376515.34
121 Sb	48.95 ug/l	0.14	50.00	89.5 - 110		438919.78	442686.66	445269.88
137 Ba	48.83 ug/l	0.36	50.00	89.5 - 110		194457.39	194797.03	196137.75
202 Hg	2.49 ug/l	1.12	2.50	89.5 - 110		7864.61	7953.34	8065.05
205 Tl	9.582 ug/l	0.77	10.00	89.5 - 110		256465.02	254484.73	255359.73
208 Pb	48.06 ug/l	1.10	50.00	89.5 - 110		1750691.60	1729136.40	1755282.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	403072.44	0.62	442436.88	91.1	60 - 125		400750.31	402759.00	405708.00
45 Sc	432045.38	0.63	456299.72	94.7	60 - 125		435177.41	430170.72	430787.97
45 Sc	742709.44	1.60	765061.25	97.1	60 - 125		743953.94	730289.88	753884.50
74 Ge	150398.58	0.48	153441.28	98.0	60 - 125		150361.97	149693.47	151140.27
74 Ge	44763.31	0.65	47804.94	93.6	60 - 125		44660.09	44537.55	45092.29
74 Ge	221296.80	0.47	224564.78	98.5	60 - 125		220571.69	222477.16	220841.56
89 Y	1299609.50	0.58	1302847.50	99.8	60 - 125		1290866.90	1303855.80	1304106.00
115 In	1340412.30	0.63	1366177.60	98.1	60 - 125		1331010.40	1342953.10	1347273.40
159 Tb	1967708.90	0.38	2052817.90	95.9	60 - 125		1959728.50	1974623.80	1968774.10
209 Bi	1291162.80	0.17	1405468.50	91.9	60 - 125		1290285.40	1289497.30	1293705.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\242_CCB.D\242_CCB.D#
 Date Acquired: Aug 25 2014 03:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007051	0.0007051	ug/l	315.27	#VALUE!		0.00	0.00	6.67
11 B #3	1.668	1.668	ug/l	6.40	#VALUE!		4357.29	4487.31	4627.34
23 Na #1	-6.842	-6.842	ug/l	1.35	#VALUE!		67525.02	67337.71	67665.58
24 Mg #1	0.5404	0.5404	ug/l	4.74	#VALUE!		2293.54	2190.18	2250.20
27 Al #1	0.43	0.43	ug/l	8.29	#VALUE!		2703.59	2606.93	2793.98
39 K #2	-9.177	-9.177	ug/l	14.96	#VALUE!		9932.86	9325.90	9309.26
40 Ca #1	0.7954	0.7954	ug/l	8.05	#VALUE!		28658.95	29523.58	29456.89
47 Ti #3	-0.04015	-0.04015	ug/l	12.14	#VALUE!		63.34	66.67	56.67
51 V #2	-0.01878	-0.01878	ug/l	39.12	#VALUE!		167.78	162.22	200.00
52 Cr #2	-0.01965	-0.01965	ug/l	32.49	#VALUE!		234.45	276.67	263.34
55 Mn #3	0.004325	0.004325	ug/l	109.39	#VALUE!		1446.77	1476.76	1613.45
56 Fe #1	1.175	1.175	ug/l	1.10	#VALUE!		13802.12	13728.82	13655.38
59 Co #3	-0.0003745	-0.0003745	ug/l	312.15	#VALUE!		70.00	73.34	43.33
60 Ni #2	-0.01014	-0.01014	ug/l	21.11	#VALUE!		38.89	34.44	37.78
63 Cu #2	-0.04629	-0.04629	ug/l	13.38	#VALUE!		255.56	271.12	300.01
66 Zn #2	-0.07976	-0.07976	ug/l	12.99	#VALUE!		440.02	446.68	480.02
75 As #2	-0.001537	-0.001537	ug/l	69.81	#VALUE!		13.33	14.00	14.33
78 Se #1	-0.02185	-0.02185	ug/l	23.53	#VALUE!		16.00	13.33	14.00
88 Sr #3	0.0005523	0.0005523	ug/l	259.10	#VALUE!		186.67	130.00	193.34
95 Mo #3	0.07762	0.07762	ug/l	17.64	#VALUE!		450.02	466.69	363.35
107 Ag #3	-0.0007851	-0.0007851	ug/l	139.35	#VALUE!		116.67	103.34	126.67
111 Cd #3	0.0009389	0.0009389	ug/l	172.12	#VALUE!		13.23	6.56	6.59
118 Sn #3	0.1062	0.1062	ug/l	9.96	#VALUE!		1606.78	1490.10	1470.11
121 Sb #3	0.02112	0.02112	ug/l	13.17	#VALUE!		240.01	253.34	203.34
137 Ba #3	-0.001145	-0.001145	ug/l	271.53	#VALUE!		20.00	43.33	40.00
202 Hg #3	0.01641	0.01641	ug/l	16.99	#VALUE!		169.67	167.33	184.00
205 Tl #3	-0.003464	-0.003464	ug/l	19.26	#VALUE!		116.67	106.67	83.34
208 Pb #3	-0.01865	-0.01865	ug/l	3.60	#VALUE!		746.70	736.70	706.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	401980.03	0.43	442436.88	90.9	60 - 125		401934.63	403714.25	400291.31
45 Sc #1	420790.56	0.29	456299.72	92.2	60 - 125		419435.50	421818.94	421117.34
45 Sc #3	710111.94	0.21	765061.25	92.8	60 - 125		711775.19	709065.81	709494.94
74 Ge #1	147940.17	0.55	153441.28	96.4	60 - 125		148821.31	147787.86	147211.33
74 Ge #2	44311.41	1.09	47804.94	92.7	60 - 125		43818.07	44332.52	44783.64
74 Ge #3	216467.94	0.47	224564.78	96.4	60 - 125		215438.59	217462.23	216502.98
89 Y #3	1274239.90	0.52	1302847.50	97.8	60 - 125		1276114.60	1279667.10	1266937.90
115 In #3	1346464.90	0.60	1366177.60	98.6	60 - 125		1339680.90	1355419.10	1344294.60
159 Tb #3	1944589.10	0.60	2052817.90	94.7	60 - 125		1931034.40	1951588.10	1951144.80
209 Bi #3	1317998.30	0.72	1405468.50	93.8	60 - 125		1307547.10	1320570.30	1325877.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\243SMPL.D\243SMPL.D#
 Date Acquired: Aug 25 2014 03:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: RLV 345441
 Misc Info: 3005 1/5
 Vial Number: 4412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.106	0.106	ug/l	6.91	100.00		190.01	196.67	173.34
11 B # 3	22.55	22.55	ug/l	1.49	1800.00		33145.27	33656.41	33008.32
23 Na # 1	58.3	58.3	ug/l	5.04	81000.00		275529.66	273964.13	276858.84
24 Mg # 1	66.58	66.58	ug/l	3.98	81000.00		151506.67	149426.75	150730.39
27 Al # 1	13.75	13.75	ug/l	3.69	81000.00		38241.96	38138.50	38195.42
39 K # 2	50.67	50.67	ug/l	2.05	81000.00		29266.66	29209.73	29266.54
40 Ca # 1	70.16	70.16	ug/l	4.45	81000.00		461016.13	454589.88	455046.59
47 Ti # 3	1.056	1.056	ug/l	2.12	1620.00		1190.07	1236.74	1256.74
51 V # 2	1.139	1.139	ug/l	2.58	1800.00		3045.83	3222.53	3170.30
52 Cr # 2	1.139	1.139	ug/l	2.29	1800.00		3885.99	3870.43	3817.09
55 Mn # 3	1.143	1.143	ug/l	1.29	1800.00		22454.03	22744.47	22934.68
56 Fe # 1	27.68	27.68	ug/l	5.15	81000.00		231179.34	225270.63	224620.13
59 Co # 3	0.1113	0.1113	ug/l	7.22	1800.00		1763.47	1610.12	1536.77
60 Ni # 2	1.206	1.206	ug/l	3.95	1800.00		1390.07	1406.73	1521.19
63 Cu # 2	1.095	1.095	ug/l	2.16	1800.00		3886.00	3788.20	3968.24
66 Zn # 3	4.866	4.866	ug/l	2.57	1800.00		10630.05	10820.16	10306.57
75 As # 2	0.6022	0.6022	ug/l	1.78	100.00		214.67	213.34	223.67
78 Se # 1	0.537	0.537	ug/l	1.90	100.00		156.00	160.00	154.33
88 Sr # 3	0.2092	0.2092	ug/l	2.77	1800.00		5137.56	5430.98	5400.94
95 Mo # 3	1.132	1.132	ug/l	2.44	1800.00		4464.02	4730.76	4614.08
107 Ag # 3	0.0395	0.0395	ug/l	11.13	100.00		610.03	550.02	523.36
111 Cd # 3	0.1091	0.1091	ug/l	9.76	100.00		269.03	292.30	242.33
118 Sn # 3	1.23	1.23	ug/l	2.24	1800.00		9712.98	9936.49	10259.94
121 Sb # 3	1.098	1.098	ug/l	1.95	100.00		10076.52	9813.03	9949.86
137 Ba # 3	1.114	1.114	ug/l	0.61	1800.00		4430.71	4527.40	4497.38
202 Hg # 3	0.1577	0.1577	ug/l	1.60	5.00		612.01	619.68	609.35
205 Tl # 3	0.2151	0.2151	ug/l	4.03	20.00		5991.31	5941.30	5641.21
208 Pb # 3	0.3081	0.3081	ug/l	0.86	1800.00		12335.64	12555.70	12472.35
232 Th # 3	0.5008	0.5008	ug/l	0.84	#VALUE!		19910.05	20133.73	19826.67
238 U # 3	0.5237	0.5237	ug/l	1.08	#VALUE!		21535.75	21512.33	21348.75

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	405030.84	1.23	442436.88	91.5	60 - 125		399279.06	407578.50	408234.94
45 Sc # 1	416727.59	3.38	456299.72	91.3	60 - 125		400711.34	422302.28	427169.19
45 Sc # 3	722190.69	1.32	765061.25	94.4	60 - 125		715883.31	717495.06	733193.50
74 Ge # 1	146959.02	0.73	153441.28	95.8	60 - 125		145759.23	147806.03	147311.81
74 Ge # 2	44301.78	1.18	47804.94	92.7	60 - 125		43819.16	44227.88	44858.29
74 Ge # 3	217131.58	0.14	224564.78	96.7	60 - 125		217489.58	216989.67	216915.44
89 Y # 3	1271398.00	1.24	1302847.50	97.6	60 - 125		1264211.60	1289465.30	1260517.00
115 In # 3	1338656.00	0.75	1366177.60	98.0	60 - 125		1327365.10	1341967.10	1346636.00
159 Tb # 3	1945940.40	0.71	2052817.90	94.8	60 - 125		1932687.00	1944866.60	1960267.50
209 Bi # 3	1314851.60	0.78	1405468.50	93.6	60 - 125		1303213.90	1322736.00	1318605.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures
 0 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\244SMPL.D\244SMPL.D#
 Date Acquired: Aug 25 2014 04:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-d
 Misc Info: 3050 1/5
 Vial Number: 4201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.3552	0.3552	ug/l	2.93	100.00		620.03	620.03	593.36
11 B # 3	3.877	3.877	ug/l	4.48	1800.00		7508.30	7568.37	7178.17
23 Na # 1	392	392	ug/l	0.96	81000.00		1399936.00	1401898.30	1406432.60
24 Mg # 1	2345	2345	ug/l	0.60	81000.00		5513561.50	5481981.00	5500490.00
27 Al # 1	4476	4476	ug/l	0.37	81000.00		12487389.00	12466871.00	12411284.00
39 K # 2	891.1	891.1	ug/l	0.69	81000.00		293175.31	298461.28	300564.53
40 Ca # 1	30820	30820	ug/l	0.69	81000.00		198263140.00	199031860.00	198163630.00
47 Ti # 3	72.86	72.86	ug/l	2.27	1620.00		79247.23	78524.31	78748.54
51 V # 2	24.92	24.92	ug/l	0.63	1800.00		61472.51	62463.41	62961.71
52 Cr # 2	6.339	6.339	ug/l	0.51	1800.00		19324.49	19593.68	19399.03
55 Mn # 3	335.2	335.2	ug/l	0.58	1800.00		6008648.00	6088525.00	6051018.00
56 Fe # 1	9366	9366	ug/l	0.52	81000.00		78835936.00	79118048.00	78223144.00
59 Co # 3	6.478	6.478	ug/l	1.61	1800.00		88217.18	87378.31	90128.70
60 Ni # 2	11.39	11.39	ug/l	0.77	1800.00		12804.50	12795.60	12782.30
63 Cu # 2	3.977	3.977	ug/l	0.41	1800.00		12466.53	12666.64	12713.35
66 Zn # 3	18.31	18.31	ug/l	0.55	1800.00		36753.97	36991.22	37134.65
75 As # 2	3.315	3.315	ug/l	2.29	100.00		1071.03	1092.70	1130.37
78 Se # 1	0.06692	0.06692	ug/l	22.24	100.00		33.00	40.67	36.00
88 Sr # 3	49.59	49.59	ug/l	0.71	1800.00		1333262.30	1351882.30	1345800.00
95 Mo # 3	0.2581	0.2581	ug/l	10.69	1800.00		993.39	1110.07	1203.41
107 Ag # 3	0.004494	0.004494	ug/l	29.17	100.00		183.34	163.34	156.67
111 Cd # 3	0.06909	0.06909	ug/l	13.19	100.00		163.12	189.76	146.41
118 Sn # 3	2.372	2.372	ug/l	0.48	1800.00		17989.72	17959.67	17933.08
121 Sb # 3	0.1483	0.1483	ug/l	3.43	100.00		1300.08	1320.09	1380.10
137 Ba # 3	281	281	ug/l	1.04	1800.00		1071110.30	1090466.90	1092615.90
202 Hg # 3	-0.005305	-0.005305	ug/l	47.75	5.00		103.67	115.00	99.00
205 Tl # 3	0.0675	0.0675	ug/l	2.94	20.00		1926.84	1950.19	2020.18
208 Pb # 3	5.213	5.213	ug/l	0.48	1800.00		186779.16	189531.02	187283.17
232 Th # 3	3.107	3.107	ug/l	0.28	#VALUE!		117149.67	119580.16	118779.67
238 U # 3	0.3843	0.3843	ug/l	0.41	#VALUE!		15124.55	15318.06	15331.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	397096.47	0.64	442436.88	89.8	60 - 125		394191.16	398365.72	398732.53
45 Sc # 1	434517.38	0.67	456299.72	95.2	60 - 125		437441.41	434452.63	431658.19
45 Sc # 3	734580.94	1.78	765061.25	96.0	60 - 125		720151.94	745769.88	737820.94
74 Ge # 1	145284.70	0.31	153441.28	94.7	60 - 125		144919.61	145788.58	145145.92
74 Ge # 2	43020.59	0.69	47804.94	90.0	60 - 125		42676.48	43204.32	43180.98
74 Ge # 3	210554.06	1.01	224564.78	93.8	60 - 125		208103.45	211607.67	211951.03
89 Y # 3	1394434.40	0.67	1302847.50	107.0	60 - 125		1386562.90	1391937.80	1404802.10
115 In # 3	1295074.30	0.45	1366177.60	94.8	60 - 125		1292386.30	1301741.90	1291094.60
159 Tb # 3	1939962.60	0.34	2052817.90	94.5	60 - 125		1937583.80	1947465.40	1934838.80
209 Bi # 3	1273050.80	1.14	1405468.50	90.6	60 - 125		1256354.60	1282633.10	1280164.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\245SMPL.D\245SMPL.D#
 Date Acquired: Aug 25 2014 04:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dSD
 Misc Info: 3050 1/25
 Vial Number: 4202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.32935	0.06587	ug/l	7.07	100.00		120.00	120.00	106.67
11 B # 3	6.385	1.277	ug/l	5.94	1800.00		4020.51	3987.18	3863.83
23 Na # 1	375.7	75.14	ug/l	0.25	81000.00		334348.72	332798.44	332927.50
24 Mg # 1	2528.5	505.7	ug/l	0.36	81000.00		1156970.40	1152466.60	1142649.60
27 Al # 1	4724	944.8	ug/l	0.25	81000.00		2550401.00	2555734.30	2546946.80
39 K # 2	870.5	174.1	ug/l	1.70	81000.00		67216.33	68849.04	68748.48
40 Ca # 1	32070	6414	ug/l	0.54	81000.00		40271336.00	40259240.00	39724312.00
47 Ti # 3	74.6	14.92	ug/l	2.09	1620.00		15646.88	15960.57	15833.73
51 V # 2	25.035	5.007	ug/l	1.85	1800.00		12537.63	12731.07	12997.91
52 Cr # 2	6.21	1.242	ug/l	1.26	1800.00		4070.47	4034.91	4132.71
55 Mn # 3	346.9	69.38	ug/l	0.63	1800.00		1271914.10	1273160.80	1281084.50
56 Fe # 1	9750	1950	ug/l	1.11	81000.00		15842750.00	15804343.00	16059060.00
59 Co # 3	6.73	1.346	ug/l	0.55	1800.00		18686.55	18753.40	18890.03
60 Ni # 2	12.025	2.405	ug/l	1.31	1800.00		2714.67	2778.01	2765.79
63 Cu # 2	3.9365	0.7873	ug/l	0.86	1800.00		2861.36	2840.24	2819.13
66 Zn # 3	18.84	3.768	ug/l	2.63	1800.00		8385.46	8152.04	8135.36
75 As # 2	3.288	0.6576	ug/l	2.99	100.00		225.67	227.34	237.67
78 Se # 1	-0.11015	-0.02203	ug/l	79.85	100.00		11.00	12.33	19.33
88 Sr # 3	52.35	10.47	ug/l	0.76	1800.00		264146.97	261535.86	262927.97
95 Mo # 3	0.25595	0.05119	ug/l	20.43	1800.00		270.01	323.35	350.01
107 Ag # 3	-0.0018145	-0.0003629	ug/l	899.97	100.00		136.67	76.67	140.00
111 Cd # 3	0.064	0.0128	ug/l	67.17	100.00		46.61	13.26	49.92
118 Sn # 3	2.632	0.5264	ug/l	2.99	1800.00		4524.03	4737.44	4550.74
121 Sb # 3	0.164	0.0328	ug/l	9.59	100.00		316.68	363.35	313.35
137 Ba # 3	267	53.4	ug/l	0.70	1800.00		209550.86	208582.77	211406.72
202 Hg # 3	-0.040045	-0.008009	ug/l	37.62	5.00		93.33	107.00	89.00
205 Tl # 3	0.04384	0.008768	ug/l	28.99	20.00		373.35	496.69	386.68
208 Pb # 3	5.255	1.051	ug/l	0.14	1800.00		38276.01	38662.73	38793.06
232 Th # 3	3.036	0.6072	ug/l	0.68	#VALUE!		23975.97	23795.62	23949.13
238 U # 3	0.39175	0.07835	ug/l	4.41	#VALUE!		3270.46	3270.46	3073.73

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402111.94	0.77	442436.88	90.9	60 - 125		398540.50	404211.34	403583.94
45 Sc # 1	421441.44	0.28	456299.72	92.4	60 - 125		422551.47	421562.53	420210.34
45 Sc # 3	715573.94	1.09	765061.25	93.5	60 - 125		723852.06	708437.19	714432.56
74 Ge # 1	146148.06	0.10	153441.28	95.2	60 - 125		146070.09	146054.38	146319.73
74 Ge # 2	43244.40	0.08	47804.94	90.5	60 - 125		43271.15	43204.32	43257.75
74 Ge # 3	214265.33	0.73	224564.78	95.4	60 - 125		212473.17	215353.59	214969.23
89 Y # 3	1291084.60	0.94	1302847.50	99.1	60 - 125		1291996.30	1278482.10	1302775.90
115 In # 3	1318235.00	0.03	1366177.60	96.5	60 - 125		1318617.40	1318204.10	1317883.40
159 Tb # 3	1919162.90	0.79	2052817.90	93.5	60 - 125		1901819.10	1926277.00	1929392.30
209 Bi # 3	1302323.60	0.92	1405468.50	92.7	60 - 125		1301532.30	1290740.90	1314697.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\246SMPL.D\246SMPL.D#
 Date Acquired: Aug 25 2014 04:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-dPDS
 Misc Info: 3050 1/5
 Vial Number: 4203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	17.5	17.5	ug/l	0.26	100.00		30814.79	31038.38	31225.46
11 B # 3	37.97	37.97	ug/l	0.23	1800.00		54777.28	55198.50	55489.23
23 Na # 1	2189	2189	ug/l	0.33	81000.00		7500790.50	7449248.00	7509005.00
24 Mg # 1	4130	4130	ug/l	0.46	81000.00		9746247.00	9818697.00	9775747.00
27 Al # 1	4694	4694	ug/l	0.62	81000.00		13279001.00	13177735.00	13133855.00
39 K # 2	2692	2692	ug/l	1.26	81000.00		888292.38	885073.00	884526.25
40 Ca # 1	32730	32730	ug/l	0.37	81000.00		212678100.00	213571540.00	212596290.00
47 Ti # 3	87.83	87.83	ug/l	1.27	1620.00		98075.18	98671.39	98172.23
51 V # 2	42.49	42.49	ug/l	0.69	1800.00		107129.75	107376.00	108104.25
52 Cr # 2	23.87	23.87	ug/l	0.81	1800.00		73052.73	73726.41	73248.91
55 Mn # 3	508.3	508.3	ug/l	0.69	1800.00		9391112.00	9372409.00	9364457.00
56 Fe # 1	11210	11210	ug/l	0.39	81000.00		95564104.00	94961920.00	94971960.00
59 Co # 3	23.71	23.71	ug/l	0.57	1800.00		331312.38	330777.63	331399.75
60 Ni # 2	29.18	29.18	ug/l	1.56	1800.00		33366.65	32958.18	33140.79
63 Cu # 2	21.28	21.28	ug/l	0.69	1800.00		66378.44	66575.75	66923.81
66 Zn # 3	34.86	34.86	ug/l	2.02	1800.00		72255.39	69986.85	71867.44
75 As # 2	20.92	20.92	ug/l	0.96	100.00		6944.66	6960.34	6946.33
78 Se # 1	18.3	18.3	ug/l	0.37	100.00		4640.60	4635.27	4671.28
88 Sr # 3	64.1	64.1	ug/l	0.19	1800.00		1739477.90	1770885.00	1783383.10
95 Mo # 3	17.78	17.78	ug/l	1.00	1800.00		69426.11	68505.02	68970.63
107 Ag # 3	16.65	16.65	ug/l	1.00	100.00		179658.97	180094.50	181242.19
111 Cd # 3	17.13	17.13	ug/l	0.78	100.00		40081.32	40609.35	39536.59
118 Sn # 3	19.59	19.59	ug/l	0.44	1800.00		144261.05	145578.94	144329.02
121 Sb # 3	17.16	17.16	ug/l	0.56	100.00		150569.17	152196.66	151006.11
137 Ba # 3	293.4	293.4	ug/l	0.31	1800.00		1144865.30	1146034.60	1140117.60
202 Hg # 3	0.937	0.937	ug/l	1.37	5.00		3054.63	3009.62	3057.97
205 Tl # 3	3.383	3.383	ug/l	1.48	20.00		90151.91	88646.92	89257.55
208 Pb # 3	21.64	21.64	ug/l	0.53	1800.00		776677.88	780136.69	777619.06
232 Th # 3	21	21	ug/l	0.10	#VALUE!		784929.25	795706.88	796285.63
238 U # 3	17.43	17.43	ug/l	0.78	#VALUE!		684198.31	683790.88	686791.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	409811.91	0.61	442436.88	92.6	60 - 125		406926.88	411066.19	411442.69
45 Sc # 1	438976.47	0.13	456299.72	96.2	60 - 125		438944.22	438432.44	439552.84
45 Sc # 3	759931.63	1.58	765061.25	99.3	60 - 125		749130.81	772912.50	757751.63
74 Ge # 1	145865.45	0.37	153441.28	95.1	60 - 125		145259.58	146053.36	146283.39
74 Ge # 2	43619.40	1.00	47804.94	91.2	60 - 125		43119.69	43800.20	43938.30
74 Ge # 3	215222.28	0.54	224564.78	95.8	60 - 125		213906.25	215612.67	216147.91
89 Y # 3	1416766.90	1.09	1302847.50	108.7	60 - 125		1399765.10	1420473.30	1430062.00
115 In # 3	1307647.90	0.58	1366177.60	95.7	60 - 125		1309770.90	1313991.90	1299181.10
159 Tb # 3	1947115.60	0.66	2052817.90	94.9	60 - 125		1932243.90	1954402.90	1954700.10
209 Bi # 3	1262023.60	0.87	1405468.50	89.8	60 - 125		1249420.40	1266825.90	1269824.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\247SMPL.D\247SMPL.D#
 Date Acquired: Aug 25 2014 04:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-e ms
 Misc Info: 3050 1/5
 Vial Number: 4204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.27	10.27	ug/l	1.86	100.00		18312.27	18262.16	18689.32
11 B # 3	38.85	38.85	ug/l	1.63	1800.00		56575.74	57806.34	56726.06
23 Na # 1	1339	1339	ug/l	0.72	81000.00		4661043.50	4718151.50	4693106.00
24 Mg # 1	3022	3022	ug/l	0.48	81000.00		7244533.00	7273380.00	7306769.00
27 Al # 1	5056	5056	ug/l	0.34	81000.00		14401070.00	14463290.00	14464960.00
39 K # 2	1746	1746	ug/l	0.54	81000.00		593968.56	595511.38	592543.56
40 Ca # 1	32480	32480	ug/l	0.64	81000.00		213373680.00	215433310.00	215449360.00
47 Ti # 3	90.13	90.13	ug/l	0.83	1620.00		101338.80	102170.32	101509.73
51 V # 2	39.58	39.58	ug/l	0.40	1800.00		102745.85	102608.18	103064.16
52 Cr # 2	25.54	25.54	ug/l	0.11	1800.00		80731.55	80315.41	80507.45
55 Mn # 3	345.8	345.8	ug/l	0.77	1800.00		6401823.00	6444288.00	6434438.50
56 Fe # 1	10330	10330	ug/l	0.41	81000.00		88839376.00	89383936.00	89246560.00
59 Co # 3	14.08	14.08	ug/l	0.72	1800.00		197943.33	198760.95	197686.98
60 Ni # 2	27.95	27.95	ug/l	0.43	1800.00		32561.88	32577.55	32646.54
63 Cu # 2	23.06	23.06	ug/l	0.32	1800.00		74110.70	74036.23	73972.57
66 Zn # 3	35.41	35.41	ug/l	1.45	1800.00		73323.01	72637.05	73055.12
75 As # 2	23.67	23.67	ug/l	0.62	100.00		8112.47	8084.46	8010.77
78 Se # 1	19.95	19.95	ug/l	0.62	100.00		5191.42	5155.07	5164.74
88 Sr # 3	62.34	62.34	ug/l	0.80	1800.00		1754415.00	1758737.30	1737984.10
95 Mo # 3	18.87	18.87	ug/l	1.39	1800.00		73609.09	74797.34	73783.18
107 Ag # 3	9.744	9.744	ug/l	1.53	100.00		105479.03	108352.59	106803.41
111 Cd # 3	9.792	9.792	ug/l	1.41	100.00		23122.92	23376.44	23066.15
118 Sn # 3	41.81	41.81	ug/l	0.78	1800.00		312180.91	310206.16	312723.03
121 Sb # 3	5.319	5.319	ug/l	0.95	100.00		47626.06	46870.74	47977.30
137 Ba # 3	219.4	219.4	ug/l	1.12	1800.00		865104.69	867714.75	863038.88
202 Hg # 3	0.8776	0.8776	ug/l	1.56	5.00		2881.61	2842.27	2861.27
205 Tl # 3	7.533	7.533	ug/l	1.11	20.00		199644.33	198319.80	199517.11
208 Pb # 3	13.94	13.94	ug/l	1.02	1800.00		503843.13	501850.50	503044.38
232 Th # 3	12.7	12.7	ug/l	0.33	#VALUE!		479798.91	482925.34	482235.19
238 U # 3	10.17	10.17	ug/l	0.41	#VALUE!		401841.00	402316.81	400092.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	414664.19	0.75	442436.88	93.7	60 - 125		418064.22	413977.25	411951.13
45 Sc # 1	446107.94	0.10	456299.72	97.8	60 - 125		446541.91	445673.59	446108.25
45 Sc # 3	765873.94	0.40	765061.25	100.1	60 - 125		768457.88	762471.25	766692.69
74 Ge # 1	148858.53	0.26	153441.28	97.0	60 - 125		148412.95	149070.97	149091.70
74 Ge # 2	44758.01	0.37	47804.94	93.6	60 - 125		44932.88	44604.28	44736.86
74 Ge # 3	216803.78	0.99	224564.78	96.5	60 - 125		215427.75	219270.16	215713.44
89 Y # 3	1445066.50	0.70	1302847.50	110.9	60 - 125		1435532.30	1455707.60	1443959.80
115 In # 3	1323408.40	0.91	1366177.60	96.9	60 - 125		1314531.50	1318528.40	1337165.40
159 Tb # 3	1951171.60	0.84	2052817.90	95.0	60 - 125		1932291.30	1961432.90	1959791.00
209 Bi # 3	1267895.40	0.12	1405468.50	90.2	60 - 125		1267061.80	1267024.40	1269599.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\248SMPL.D\248SMPL.D#
 Date Acquired: Aug 25 2014 04:33 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-1-f msd
 Misc Info: 3050 1/5
 Vial Number: 4205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.18	10.18	ug/l	0.62	100.00		18282.23	18278.85	18118.70
11 B # 3	39.3	39.3	ug/l	1.08	1800.00		57374.43	57093.77	58237.27
23 Na # 1	1425	1425	ug/l	11.45	81000.00		4598991.50	4561221.50	4603716.00
24 Mg # 1	3019	3019	ug/l	12.17	81000.00		6763915.00	6654515.50	6628613.00
27 Al # 1	5031	5031	ug/l	11.72	81000.00		13321748.00	13140638.00	13201778.00
39 K # 2	1683	1683	ug/l	0.42	81000.00		565529.94	567307.00	566592.00
40 Ca # 1	26680	26680	ug/l	11.62	81000.00		163329070.00	161740640.00	161795980.00
47 Ti # 3	85.9	85.9	ug/l	1.28	1620.00		97917.81	96848.37	96744.94
51 V # 2	38.87	38.87	ug/l	0.86	1800.00		99842.25	100260.37	99296.20
52 Cr # 2	25.4	25.4	ug/l	0.19	1800.00		78882.76	78977.60	79594.65
55 Mn # 3	298.4	298.4	ug/l	0.88	1800.00		5595111.50	5487781.50	5551345.00
56 Fe # 1	10450	10450	ug/l	11.89	81000.00		83749392.00	82184624.00	82939624.00
59 Co # 3	13.84	13.84	ug/l	0.78	1800.00		194315.55	194044.55	195913.45
60 Ni # 2	27.79	27.79	ug/l	1.33	1800.00		31943.06	32423.88	31739.40
63 Cu # 2	23.49	23.49	ug/l	1.08	1800.00		74016.18	75441.65	74243.44
66 Zn # 3	34.71	34.71	ug/l	1.07	1800.00		70967.13	71820.45	71974.24
75 As # 2	23.87	23.87	ug/l	0.70	100.00		8061.45	8038.11	8028.44
78 Se # 1	21.73	21.73	ug/l	9.06	100.00		5335.79	5367.80	5231.09
88 Sr # 3	55.11	55.11	ug/l	0.96	1800.00		1491245.10	1500103.40	1504990.10
95 Mo # 3	18.96	18.96	ug/l	1.14	1800.00		73994.09	75185.69	74111.19
107 Ag # 3	9.834	9.834	ug/l	0.72	100.00		108228.99	108215.05	107262.74
111 Cd # 3	9.859	9.859	ug/l	1.50	100.00		23169.75	23690.03	23206.40
118 Sn # 3	42.39	42.39	ug/l	0.46	1800.00		316145.06	316743.06	315496.50
121 Sb # 3	5.505	5.505	ug/l	0.80	100.00		49585.04	48608.68	49313.98
137 Ba # 3	291	291	ug/l	0.85	1800.00		1146027.60	1155538.40	1142595.90
202 Hg # 3	0.8927	0.8927	ug/l	1.03	5.00		2927.28	2877.60	2879.60
205 Tl # 3	7.636	7.636	ug/l	0.22	20.00		200802.80	201028.05	200903.22
208 Pb # 3	13.86	13.86	ug/l	0.83	1800.00		495175.63	496499.47	501104.38
232 Th # 3	12.74	12.74	ug/l	1.30	#VALUE!		488564.88	482394.31	488173.91
238 U # 3	10.12	10.12	ug/l	1.24	#VALUE!		402037.22	401528.16	403110.63

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	413872.22	0.22	442436.88	93.5	60 - 125		412862.44	414568.59	414185.66
45 Sc # 1	413747.97	10.42	456299.72	90.7	60 - 125		364344.84	433364.13	443534.91
45 Sc # 3	767993.81	1.29	765061.25	100.4	60 - 125		771886.81	756757.88	775336.56
74 Ge # 1	141125.70	8.10	153441.28	92.0	60 - 125		127933.64	147281.61	148161.88
74 Ge # 2	44244.58	0.49	47804.94	92.6	60 - 125		44030.70	44241.31	44461.72
74 Ge # 3	216773.11	0.31	224564.78	96.5	60 - 125		217470.36	216733.14	216115.80
89 Y # 3	1399624.10	0.50	1302847.50	107.4	60 - 125		1406601.00	1399650.90	1392620.40
115 In # 3	1323858.50	0.27	1366177.60	96.9	60 - 125		1325141.00	1319870.60	1326564.00
159 Tb # 3	1941781.60	0.24	2052817.90	94.6	60 - 125		1942260.60	1946189.50	1936895.00
209 Bi # 3	1277069.30	1.44	1405468.50	90.9	60 - 125		1265992.10	1266896.50	1298319.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\249SMPL.D\249SMPL.D#
 Date Acquired: Aug 25 2014 04:40 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 600-97400-h-2-b
 Misc Info: 3050 1/5
 Vial Number: 4206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.3077	0.3077	ug/l	5.11	100.00		526.69	583.36	576.69
11 B # 3	3.441	3.441	ug/l	2.29	1800.00		7318.22	7141.47	7288.21
23 Na # 1	271.8	271.8	ug/l	0.85	81000.00		1030014.80	1016826.30	1024050.40
24 Mg # 1	1824	1824	ug/l	0.10	81000.00		4369097.00	4374151.00	4375599.50
27 Al # 1	3536	3536	ug/l	0.51	81000.00		10073887.00	10106722.00	9998984.00
39 K # 2	700.7	700.7	ug/l	0.66	81000.00		246675.13	245965.52	245576.33
40 Ca # 1	30970	30970	ug/l	0.28	81000.00		204210720.00	203617840.00	203972660.00
47 Ti # 3	66.33	66.33	ug/l	0.94	1620.00		75408.08	75832.77	75602.17
51 V # 2	20.09	20.09	ug/l	0.90	1800.00		52152.29	52063.11	52700.32
52 Cr # 2	5.562	5.562	ug/l	1.91	1800.00		18029.87	17533.85	17809.68
55 Mn # 3	220.5	220.5	ug/l	0.85	1800.00		4182118.30	4132656.50	4132205.00
56 Fe # 1	9001	9001	ug/l	0.44	81000.00		77660192.00	77243224.00	77176912.00
59 Co # 3	3.852	3.852	ug/l	0.95	1800.00		55359.95	54838.22	54544.30
60 Ni # 2	7.61	7.61	ug/l	0.37	1800.00		8901.10	8965.57	8871.08
63 Cu # 2	3.961	3.961	ug/l	0.33	1800.00		13054.69	13096.96	13074.71
66 Zn # 3	15.18	15.18	ug/l	1.92	1800.00		32666.47	31808.12	31644.53
75 As # 2	4.094	4.094	ug/l	0.50	100.00		1409.73	1412.39	1402.06
78 Se # 1	0.0614	0.0614	ug/l	36.12	100.00		37.33	29.67	41.00
88 Sr # 3	43.88	43.88	ug/l	0.68	1800.00		1225701.30	1215159.60	1222943.40
95 Mo # 3	0.2631	0.2631	ug/l	5.85	1800.00		1153.41	1233.42	1120.07
107 Ag # 3	0.00424	0.00424	ug/l	73.11	100.00		146.67	156.67	213.34
111 Cd # 3	0.06894	0.06894	ug/l	13.98	100.00		156.42	199.74	163.09
118 Sn # 3	2.718	2.718	ug/l	1.37	1800.00		21063.30	21657.35	21310.31
121 Sb # 3	0.1646	0.1646	ug/l	5.51	100.00		1540.11	1450.11	1626.80
137 Ba # 3	247.4	247.4	ug/l	1.77	1800.00		968379.75	1005927.40	1012904.80
202 Hg # 3	-0.004006	-0.004006	ug/l	94.61	5.00		106.67	101.33	125.00
205 Tl # 3	0.06428	0.06428	ug/l	5.80	20.00		1906.84	1803.49	1986.98
208 Pb # 3	4.382	4.382	ug/l	1.76	1800.00		159703.11	159889.14	159302.14
232 Th # 3	2.622	2.622	ug/l	0.48	#VALUE!		102105.74	101375.59	101271.36
238 U # 3	0.355	0.355	ug/l	0.42	#VALUE!		14423.80	14230.33	14303.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	421540.03	0.45	442436.88	95.3	60 - 125		419416.97	422182.84	423020.19
45 Sc # 1	444291.69	0.13	456299.72	97.4	60 - 125		443747.78	444899.78	444227.47
45 Sc # 3	773651.94	0.68	765061.25	101.1	60 - 125		776440.38	767583.81	776931.63
74 Ge # 1	148730.50	0.38	153441.28	96.9	60 - 125		149325.67	148215.69	148650.09
74 Ge # 2	44772.51	0.48	47804.94	93.7	60 - 125		44574.27	44998.56	44744.70
74 Ge # 3	219434.89	0.22	224564.78	97.7	60 - 125		219070.52	219255.72	219978.41
89 Y # 3	1432553.90	0.45	1302847.50	110.0	60 - 125		1426498.30	1431809.60	1439353.50
115 In # 3	1350012.40	0.74	1366177.60	98.8	60 - 125		1340439.00	1349319.60	1360278.40
159 Tb # 3	1958956.40	1.68	2052817.90	95.4	60 - 125		1920922.00	1977999.10	1977947.90
209 Bi # 3	1292972.90	0.93	1405468.50	92.0	60 - 125		1306850.40	1286575.80	1285492.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\250_QCS.D\250_QCS.D#
 Date Acquired: Aug 25 2014 04:47 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	7.25	0.10 69.5 - 130	
11 B	19.42 ug/l	0.88	20.00 69.5 - 130	
23 Na	45.22 ug/l	0.51	50.00 69.5 - 130	
24 Mg	56.04 ug/l	0.79	50.00 69.5 - 130	
27 Al	11.26 ug/l	2.07	10.00 69.5 - 130	
39 K	43.41 ug/l	3.47	50.00 69.5 - 130	
40 Ca	60.35 ug/l	1.37	50.00 69.5 - 130	
47 Ti	0.92 ug/l	3.03	1.00 69.5 - 130	
51 V	0.98 ug/l	0.55	1.00 69.5 - 130	
52 Cr	0.99 ug/l	1.07	1.00 69.5 - 130	
55 Mn	1.05 ug/l	1.32	1.00 69.5 - 130	
56 Fe	23.64 ug/l	0.23	20.00 69.5 - 130	
59 Co	0.10 ug/l	12.05	0.10 69.5 - 130	
60 Ni	1.02 ug/l	2.32	1.00 69.5 - 130	
63 Cu	0.99 ug/l	3.41	1.00 69.5 - 130	
66 Zn	4.02 ug/l	0.31	4.00 69.5 - 130	
75 As	0.50 ug/l	1.31	0.50 69.5 - 130	
78 Se	0.46 ug/l	2.71	0.50 69.5 - 130	
88 Sr	0.19 ug/l	1.63	0.20 69.5 - 130	
95 Mo	0.97 ug/l	2.43	1.00 69.5 - 130	
107 Ag	0.20 ug/l	3.60	0.20 69.5 - 130	
111 Cd	0.11 ug/l	16.69	0.10 69.5 - 130	
118 Sn	1.06 ug/l	4.72	1.00 69.5 - 130	
121 Sb	0.95 ug/l	3.31	1.00 69.5 - 130	
137 Ba	0.98 ug/l	1.77	1.00 69.5 - 130	
202 Hg	0.14 ug/l	6.63	0.16 69.5 - 130	
205 Tl	0.20 ug/l	1.38	0.20 69.5 - 130	
208 Pb	0.26 ug/l	4.22	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	424693.38	0.56	442436.88	96.0	60 - 125		
45 Sc	442915.06	0.53	456299.72	97.1	60 - 125		
45 Sc	748295.06	0.78	765061.25	97.8	60 - 125		
74 Ge	152870.42	0.36	153441.28	99.6	60 - 125		
74 Ge	46110.62	0.42	47804.94	96.5	60 - 125		
74 Ge	222072.47	0.20	224564.78	98.9	60 - 125		
89 Y	1316844.40	0.86	1302847.50	101.1	60 - 125		
115 In	1366240.00	0.26	1366177.60	100.0	60 - 125		
159 Tb	1968633.50	0.55	2052817.90	95.9	60 - 125		
209 Bi	1312786.50	1.65	1405468.50	93.4	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\251_CCV.D\251_CCV.D#
 Date Acquired: Aug 25 2014 04:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.82 ug/l	0.38	50.00	89.5 - 110		86352.63	87005.72	85950.99
11 B	94.33 ug/l	0.66	100.00	89.5 - 110		132140.73	135380.27	132992.92
23 Na	5167 ug/l	0.88	5000.00	89.5 - 110		17056402.00	17199984.00	17227766.00
24 Mg	5085 ug/l	0.48	5000.00	89.5 - 110		11820955.00	11753153.00	11777746.00
27 Al	520.7 ug/l	0.27	500.00	89.5 - 110		1433832.60	1441496.60	1425921.40
39 K	4928 ug/l	0.61	5000.00	89.5 - 110		1658825.10	1645343.10	1666998.10
40 Ca	5217 ug/l	0.50	5000.00	89.5 - 110		33497786.00	33296826.00	32918120.00
47 Ti	50.69 ug/l	3.27	50.00	89.5 - 110		54409.20	52707.78	54927.70
51 V	48.83 ug/l	0.38	50.00	89.5 - 110		127003.59	127289.02	126729.66
52 Cr	48.72 ug/l	0.65	50.00	89.5 - 110		152882.39	153868.30	154061.69
55 Mn	503.2 ug/l	0.20	500.00	89.5 - 110		9282098.00	9326946.00	9383987.00
56 Fe	5383 ug/l	0.57	5000.00	89.5 - 110		44801112.00	44613380.00	44783768.00
59 Co	48.7 ug/l	0.36	50.00	89.5 - 110		683804.19	683075.44	684697.75
60 Ni	49.47 ug/l	0.22	50.00	89.5 - 110		57777.40	57685.91	57809.64
63 Cu	48.53 ug/l	0.37	50.00	89.5 - 110		155476.28	155843.61	155703.39
66 Zn	49.03 ug/l	0.70	50.00	89.5 - 110		99565.55	100700.92	101733.34
75 As	49.63 ug/l	0.50	50.00	89.5 - 110		16889.47	16920.82	16995.56
78 Se	51.11 ug/l	0.86	50.00	89.5 - 110		13269.17	13116.40	13188.78
88 Sr	48.55 ug/l	1.24	50.00	89.5 - 110		1182320.80	1215486.50	1210183.80
95 Mo	48.89 ug/l	0.18	50.00	89.5 - 110		190417.67	192826.42	190757.36
107 Ag	47.63 ug/l	0.43	50.00	89.5 - 110		519926.09	521792.38	521089.06
111 Cd	48.78 ug/l	1.15	50.00	89.5 - 110		115085.55	114510.75	116195.78
118 Sn	49.22 ug/l	1.08	50.00	89.5 - 110		366697.81	363905.94	367592.66
121 Sb	48.53 ug/l	0.40	50.00	89.5 - 110		431695.50	433705.41	430843.13
137 Ba	48.44 ug/l	0.65	50.00	89.5 - 110		191095.16	191034.03	190042.78
202 Hg	2.485 ug/l	0.47	2.50	89.5 - 110		7795.25	7864.28	7889.96
205 Tl	9.503 ug/l	0.40	10.00	89.5 - 110		249040.28	250636.77	251119.16
208 Pb	47.82 ug/l	0.49	50.00	89.5 - 110		1713540.10	1716211.00	1716042.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	409307.69	0.61	442436.88	92.5	60 - 125		407321.06	412119.47	408482.53
45 Sc	429515.78	0.43	456299.72	94.1	60 - 125		430576.72	430590.13	427380.47
45 Sc	723034.13	1.26	765061.25	94.5	60 - 125		715200.06	733012.81	720889.38
74 Ge	148590.17	0.47	153441.28	96.8	60 - 125		148711.66	149223.83	147835.02
74 Ge	44848.29	0.25	47804.94	93.8	60 - 125		44975.26	44755.87	44813.75
74 Ge	216363.06	0.46	224564.78	96.3	60 - 125		215697.44	215892.98	217498.80
89 Y	1274828.40	0.29	1302847.50	97.8	60 - 125		1270857.30	1275454.10	1278173.80
115 In	1320718.40	0.60	1366177.60	96.7	60 - 125		1313481.30	1329272.00	1319401.90
159 Tb	1943883.10	0.52	2052817.90	94.7	60 - 125		1938317.00	1937833.10	1955499.10
209 Bi	1273232.60	0.74	1405468.50	90.6	60 - 125		1262310.50	1278905.80	1278481.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\252_CCB.D\252_CCB.D#
 Date Acquired: Aug 25 2014 05:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003145	0.003145	ug/l	59.30	#VALUE!		10.00	3.33	6.67
11 B # 3	1.778	1.778	ug/l	5.78	#VALUE!		4864.07	4830.71	4637.34
23 Na # 1	-8.675	-8.675	ug/l	2.21	#VALUE!		61441.39	61418.09	61538.34
24 Mg # 1	0.03403	0.03403	ug/l	105.14	#VALUE!		1176.74	1090.06	1013.39
27 Al # 1	-0.003618	-0.003618	ug/l	1003.30	#VALUE!		1583.44	1580.11	1426.75
39 K # 2	-8.629	-8.629	ug/l	4.49	#VALUE!		9882.87	9659.38	9826.14
40 Ca # 1	0.6505	0.6505	ug/l	10.21	#VALUE!		28655.51	28178.16	27937.81
47 Ti # 3	-0.0598	-0.0598	ug/l	22.89	#VALUE!		33.33	56.67	33.33
51 V # 2	-0.01431	-0.01431	ug/l	33.56	#VALUE!		202.23	177.78	188.89
52 Cr # 2	-0.01622	-0.01622	ug/l	27.34	#VALUE!		268.89	255.56	288.89
55 Mn # 3	0.007997	0.007997	ug/l	33.70	#VALUE!		1626.79	1443.43	1583.45
56 Fe # 1	0.7357	0.7357	ug/l	2.30	#VALUE!		10346.52	9882.90	10169.70
59 Co # 3	0.0001798	0.0001798	ug/l	617.91	#VALUE!		66.67	53.34	86.67
60 Ni # 2	-0.001461	-0.001461	ug/l	472.28	#VALUE!		53.33	50.00	38.89
63 Cu # 2	-0.05281	-0.05281	ug/l	11.86	#VALUE!		274.45	234.45	262.23
66 Zn # 3	-0.08266	-0.08266	ug/l	23.98	#VALUE!		490.02	426.69	406.68
75 As # 2	-0.001579	-0.001579	ug/l	370.55	#VALUE!		11.67	14.67	15.67
78 Se # 1	-0.0177	-0.0177	ug/l	20.63	#VALUE!		16.67	14.33	15.67
88 Sr # 3	0.0003097	0.0003097	ug/l	160.32	#VALUE!		160.01	166.67	156.67
95 Mo # 3	0.02747	0.02747	ug/l	27.45	#VALUE!		210.01	243.34	203.34
107 Ag # 3	-0.0008595	-0.0008595	ug/l	31.36	#VALUE!		113.34	110.00	110.00
111 Cd # 3	0.002454	0.002454	ug/l	82.80	#VALUE!		16.62	6.61	13.29
118 Sn # 3	0.1178	0.1178	ug/l	1.40	#VALUE!		1613.46	1486.78	1580.12
121 Sb # 3	0.0197	0.0197	ug/l	7.05	#VALUE!		216.67	216.68	203.34
137 Ba # 3	0.00629	0.00629	ug/l	2.15	#VALUE!		63.34	60.00	63.34
202 Hg # 3	0.01365	0.01365	ug/l	9.74	#VALUE!		165.67	156.67	160.33
205 Tl # 3	-0.002204	-0.002204	ug/l	62.21	#VALUE!		106.67	163.34	123.34
208 Pb # 3	-0.0208	-0.0208	ug/l	5.12	#VALUE!		626.69	646.69	633.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	413872.25	0.48	442436.88	93.5	60 - 125		412934.28	412507.75	416174.69
45 Sc # 1	420050.53	1.06	456299.72	92.1	60 - 125		422841.28	414913.69	422396.66
45 Sc # 3	702362.25	1.71	765061.25	91.8	60 - 125		715200.63	691358.06	700527.88
74 Ge # 1	148342.58	1.51	153441.28	96.7	60 - 125		150324.05	145909.84	148793.84
74 Ge # 2	44692.71	1.12	47804.94	93.5	60 - 125		44446.17	44364.87	45267.08
74 Ge # 3	212333.95	3.11	224564.78	94.6	60 - 125		216751.19	204731.92	215518.75
89 Y # 3	1253780.40	4.35	1302847.50	96.2	60 - 125		1292729.60	1191377.80	1277233.80
115 In # 3	1304295.90	3.44	1366177.60	95.5	60 - 125		1340238.10	1253939.00	1318710.40
159 Tb # 3	1896241.30	4.17	2052817.90	92.4	60 - 125		1942590.40	1805015.80	1941117.30
209 Bi # 3	1274235.60	3.71	1405468.50	90.7	60 - 125		1304488.30	1219709.00	1298509.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\253SMPL.D\253SMPL.D#
 Date Acquired: Aug 25 2014 05:10 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-5-b
 Misc Info: 3005 1/5
 Vial Number: 3203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.575	1.575	ug/l	1.57	100.00		2940.30	2830.28	2903.63
11 B #3	4.049	4.049	ug/l	1.98	1800.00		8231.91	8188.57	8091.91
23 Na #1	328.1	328.1	ug/l	1.27	81000.00		1429981.60	1443823.50	1447519.50
24 Mg #1	3959	3959	ug/l	1.98	81000.00		11262313.00	11244550.00	11214093.00
27 Al #1	23560	23560	ug/l	2.12	81000.00		79680152.00	79131000.00	79360704.00
39 K #2	2724	2724	ug/l	1.86	81000.00		942107.25	966362.56	936302.25
40 Ca #1	2600	2600	ug/l	1.67	81000.00		20278604.00	20275920.00	20385104.00
47 Ti #3	111.5	111.5	ug/l	0.60	1620.00		151627.69	151132.73	152617.97
51 V #2	39.69	39.69	ug/l	0.39	1800.00		105926.47	106145.88	106786.98
52 Cr #2	38.76	38.76	ug/l	0.54	1800.00		125150.73	126172.05	126083.45
55 Mn #3	549.7	549.7	ug/l	1.12	1800.00		10510642.00	10689341.00	10544007.00
56 Fe #1	24800	24800	ug/l	1.79	81000.00		252268580.00	253876050.00	251406720.00
59 Co #3	22.2	22.2	ug/l	0.38	1800.00		322247.56	324221.00	324470.72
60 Ni #2	44.87	44.87	ug/l	1.09	1800.00		53273.97	54094.08	54375.95
63 Cu #2	36.78	36.78	ug/l	0.51	1800.00		120895.73	121516.31	122134.60
66 Zn #3	209.9	209.9	ug/l	0.22	1800.00		444119.06	443302.91	448386.28
75 As #2	5.33	5.33	ug/l	0.47	100.00		1891.44	1886.44	1876.77
78 Se #1	0.782	0.782	ug/l	5.48	100.00		222.67	239.00	216.34
88 Sr #3	17.81	17.81	ug/l	0.89	1800.00		738597.19	745447.88	744968.13
95 Mo #3	1.632	1.632	ug/l	1.88	1800.00		6738.14	6644.73	6638.09
107 Ag #3	0.09676	0.09676	ug/l	6.26	100.00		1200.08	1150.07	1286.75
111 Cd #3	0.2823	0.2823	ug/l	2.43	100.00		675.22	715.24	685.24
118 Sn #3	3.419	3.419	ug/l	1.54	1800.00		26424.12	26597.69	27392.33
121 Sb #3	0.1862	0.1862	ug/l	3.35	100.00		1770.14	1690.13	1770.14
137 Ba #3	345.4	345.4	ug/l	0.53	1800.00		1388927.30	1399068.10	1402505.40
202 Hg #3	0.04073	0.04073	ug/l	4.67	5.00		252.67	265.34	265.34
205 Tl #3	0.5253	0.5253	ug/l	2.76	20.00		14577.16	15004.24	14463.60
208 Pb #3	25.5	25.5	ug/l	0.74	1800.00		956466.44	957314.69	962457.69
232 Th #3	13.91	13.91	ug/l	0.43	#VALUE!		534701.56	539415.13	539056.25
238 U #3	2.593	2.593	ug/l	1.07	#VALUE!		104652.09	104426.96	104034.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	424115.19	0.68	442436.88	95.9	60 - 125		424205.81	421171.56	426968.16
45 Sc #1	526362.56	1.78	456299.72	115.4	60 - 125		515534.78	531593.13	531959.75
45 Sc #3	923946.94	0.80	765061.25	120.8	60 - 125		916645.81	923738.81	931456.31
74 Ge #1	151501.67	1.33	153441.28	98.7	60 - 125		149180.20	152660.73	152664.06
74 Ge #2	46146.65	0.15	47804.94	96.5	60 - 125		46177.14	46065.69	46197.13
74 Ge #3	224603.83	0.39	224564.78	100.0	60 - 125		224158.64	224028.77	225624.06
89 Y #3	2146152.80	0.58	1302847.50	164.7	60 - 125	IS F	2149590.30	2132387.80	2156480.00
115 In #3	1356872.50	1.00	1366177.60	99.3	60 - 125		1341201.60	1364839.40	1364576.50
159 Tb #3	2036513.30	1.08	2052817.90	99.2	60 - 125		2022061.60	2025587.60	2061890.60
209 Bi #3	1292747.80	0.88	1405468.50	92.0	60 - 125		1280322.50	1302621.50	1295299.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 : Element Failures
 1 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\254SMPL.D\254SMPL.D#
 Date Acquired: Aug 25 2014 05:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-6-b
 Misc Info: 3005 1/5
 Vial Number: 3204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.851	1.851	ug/l	10.38	100.00		2640.25	2843.60	3203.66
11 B #3	4.045	4.045	ug/l	3.35	1800.00		6928.06	6828.02	7131.46
23 Na #1	97.33	97.33	ug/l	0.24	81000.00		478686.88	469904.78	463129.06
24 Mg #1	5053	5053	ug/l	0.77	81000.00		13653830.00	13232264.00	13136226.00
27 Al #1	20680	20680	ug/l	0.46	81000.00		65520032.00	64688560.00	64204924.00
39 K #2	2205	2205	ug/l	0.77	81000.00		678673.50	679110.06	675478.56
40 Ca #1	3175	3175	ug/l	0.69	81000.00		23508322.00	23104202.00	22545750.00
47 Ti #3	121.2	121.2	ug/l	0.96	1620.00		134165.66	132927.03	132651.23
51 V #2	46.29	46.29	ug/l	0.90	1800.00		109185.19	109090.13	108831.85
52 Cr #2	34.57	34.57	ug/l	0.77	1800.00		99631.56	98609.62	98068.93
55 Mn #3	1598	1598	ug/l	0.93	1800.00		25954102.00	25940782.00	25836606.00
56 Fe #1	56460	56460	ug/l	0.62	81000.00		544444160.00	530038180.00	528709280.00
59 Co #3	26.12	26.12	ug/l	0.69	1800.00		322503.47	319976.00	319619.91
60 Ni #2	48.1	48.1	ug/l	0.52	1800.00		50819.32	51248.23	50491.81
63 Cu #2	32.86	32.86	ug/l	0.51	1800.00		95724.41	96030.55	94990.91
66 Zn #3	130.6	130.6	ug/l	1.14	1800.00		233952.39	234344.42	232384.53
75 As #2	19.9	19.9	ug/l	1.24	100.00		6151.71	6149.38	6169.72
78 Se #1	0.5389	0.5389	ug/l	3.24	100.00		157.00	148.67	156.00
88 Sr #3	18.94	18.94	ug/l	0.62	1800.00		642639.50	637483.56	639527.38
95 Mo #3	2.513	2.513	ug/l	0.91	1800.00		9039.24	9072.54	8719.06
107 Ag #3	0.046	0.046	ug/l	5.38	100.00		573.36	586.69	526.69
111 Cd #3	0.1021	0.1021	ug/l	15.65	100.00		204.69	204.68	258.09
118 Sn #3	3.056	3.056	ug/l	2.00	1800.00		21203.39	20809.59	21100.02
121 Sb #3	0.2922	0.2922	ug/l	3.05	100.00		2470.24	2353.57	2303.55
137 Ba #3	249.5	249.5	ug/l	1.61	1800.00		887914.44	877512.69	884065.50
202 Hg #3	0.03235	0.03235	ug/l	21.28	5.00		194.00	212.34	236.01
205 Tl #3	0.3396	0.3396	ug/l	1.70	20.00		8832.75	8822.71	8619.22
208 Pb #3	25.94	25.94	ug/l	0.43	1800.00		893265.19	886669.13	899162.88
232 Th #3	12.19	12.19	ug/l	0.88	#VALUE!		439254.06	443874.47	442388.44
238 U #3	2.032	2.032	ug/l	0.80	#VALUE!		77203.75	77287.48	75678.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	361672.91	0.81	442436.88	81.7	60 - 125		365004.69	359536.91	360477.13
45 Sc #1	489309.25	1.47	456299.72	107.2	60 - 125		496747.75	488802.34	482377.69
45 Sc #3	746563.31	0.98	765061.25	97.6	60 - 125		750769.13	738112.50	750808.25
74 Ge #1	143814.91	1.36	153441.28	93.7	60 - 125		145971.34	143296.13	142177.22
74 Ge #2	40608.02	1.05	47804.94	84.9	60 - 125		40803.26	40900.18	40120.63
74 Ge #3	189169.88	0.85	224564.78	84.2	60 - 125		190421.02	187361.89	189726.72
89 Y #3	1738479.30	0.77	1302847.50	133.4	60 - 125	IS I	1751804.10	1738505.80	1725127.90
115 In #3	1187762.40	1.31	1366177.60	86.9	60 - 125		1193754.60	1199389.00	1170143.60
159 Tb #3	1864666.90	0.30	2052817.90	90.8	60 - 125		1862748.90	1860245.40	1871006.60
209 Bi #3	1212408.40	0.46	1405468.50	86.3	60 - 125		1217526.50	1213192.50	1206505.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures
 1 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\255SMPL.D\255SMPL.D#
 Date Acquired: Aug 25 2014 05:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-8-c
 Misc Info: 3005 1/5
 Vial Number: 3205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.705	1.705	ug/l	2.82	100.00		2563.56	2450.22	2636.92
11 B # 3	4.633	4.633	ug/l	4.83	1800.00		7161.49	7591.70	7274.84
23 Na # 1	104.7	104.7	ug/l	0.80	81000.00		421282.19	419106.03	417268.13
24 Mg # 1	5177	5177	ug/l	0.64	81000.00		11399241.00	11522823.00	11571244.00
27 Al # 1	17920	17920	ug/l	0.41	81000.00		47109276.00	47419364.00	47158152.00
39 K # 2	2064	2064	ug/l	1.07	81000.00		578356.69	590755.31	584055.25
40 Ca # 1	3876	3876	ug/l	0.54	81000.00		23717962.00	23512572.00	23788652.00
47 Ti # 3	147.2	147.2	ug/l	1.11	1620.00		147026.42	150253.16	146829.58
51 V # 2	39.86	39.86	ug/l	0.39	1800.00		86148.72	86806.19	86291.50
52 Cr # 2	32.2	32.2	ug/l	0.85	1800.00		83961.13	85405.43	84628.53
55 Mn # 3	2039	2039	ug/l	0.33	1800.00	Fail	31527172.00	31493140.00	31619606.00
56 Fe # 1	41490	41490	ug/l	0.29	81000.00		330287580.00	330977860.00	329917950.00
59 Co # 3	24.34	24.34	ug/l	0.17	1800.00		284331.50	285733.84	285346.00
60 Ni # 2	43.18	43.18	ug/l	0.54	1800.00		41956.16	41818.17	42244.64
63 Cu # 2	32.24	32.24	ug/l	0.77	1800.00		85947.20	87072.29	85840.92
66 Zn # 3	127.6	127.6	ug/l	0.71	1800.00		218454.00	216623.08	218057.19
75 As # 2	8.091	8.091	ug/l	1.50	100.00		2301.82	2280.81	2347.16
78 Se # 1	0.6395	0.6395	ug/l	4.40	100.00		151.67	154.00	162.00
88 Sr # 3	15.95	15.95	ug/l	0.88	1800.00		511764.16	514833.78	512611.50
95 Mo # 3	1.187	1.187	ug/l	0.72	1800.00		4180.63	4103.95	4187.28
107 Ag # 3	0.07486	0.07486	ug/l	14.98	100.00		823.38	920.05	720.03
111 Cd # 3	0.3423	0.3423	ug/l	5.57	100.00		675.78	699.13	762.45
118 Sn # 3	2.973	2.973	ug/l	0.96	1800.00		19992.03	19541.40	20172.20
121 Sb # 3	0.2297	0.2297	ug/l	3.12	100.00		1766.81	1866.83	1830.15
137 Ba # 3	211.9	211.9	ug/l	1.07	1800.00		723752.19	732051.31	730432.25
202 Hg # 3	0.0142	0.0142	ug/l	12.68	5.00		159.67	157.33	150.67
205 Tl # 3	0.2813	0.2813	ug/l	2.82	20.00		7105.17	6928.38	7275.39
208 Pb # 3	23.79	23.79	ug/l	0.62	1800.00		796627.06	797805.25	800916.06
232 Th # 3	12	12	ug/l	0.33	#VALUE!		425126.13	423172.50	424547.38
238 U # 3	1.889	1.889	ug/l	0.55	#VALUE!		69889.57	69528.02	69356.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	345572.56	1.13	442436.88	78.1	60 - 125		343563.25	343075.31	350079.09
45 Sc # 1	411639.28	0.16	456299.72	90.2	60 - 125		411129.63	411404.63	412383.59
45 Sc # 3	683038.69	0.39	765061.25	89.3	60 - 125		680045.69	684982.69	684087.81
74 Ge # 1	125276.77	0.44	153441.28	81.6	60 - 125		125698.10	125474.51	124657.69
74 Ge # 2	37360.03	0.03	47804.94	78.2	60 - 125		37362.64	37368.20	37349.24
74 Ge # 3	180509.78	0.36	224564.78	80.4	60 - 125		179766.66	180767.00	180995.70
89 Y # 3	1655623.10	0.64	1302847.50	127.1	60 - 125	IS f	1667910.10	1649881.40	1649077.60
115 In # 3	1153949.10	0.90	1366177.60	84.5	60 - 125		1151228.50	1145172.60	1165446.40
159 Tb # 3	1817648.50	0.69	2052817.90	88.5	60 - 125		1803975.00	1828663.50	1820307.00
209 Bi # 3	1182673.60	0.16	1405468.50	84.1	60 - 125		1180706.30	1182900.30	1184414.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\256SMPL.D\256SMPL.D#
 Date Acquired: Aug 25 2014 05:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-10-c
 Misc Info: 3005 1/5
 Vial Number: 3206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.428	1.428	ug/l	2.51	100.00		2266.86	2400.21	2320.19
11 B # 3	6.439	6.439	ug/l	0.59	1800.00		10266.29	10316.32	10379.70
23 Na # 1	148.6	148.6	ug/l	26.72	81000.00		559184.94	559118.50	568438.38
24 Mg # 1	8749	8749	ug/l	23.31	81000.00		19329090.00	19395514.00	19936232.00
27 Al # 1	21980	21980	ug/l	23.55	81000.00		57522064.00	57756372.00	59579252.00
39 K # 2	2478	2478	ug/l	1.43	81000.00		756483.31	747716.56	757188.00
40 Ca # 1	17420	17420	ug/l	23.81	81000.00		105575490.00	105528820.00	109529770.00
47 Ti # 3	134.4	134.4	ug/l	1.12	1620.00		151502.31	154604.41	155961.61
51 V # 2	44.32	44.32	ug/l	0.77	1800.00		103004.99	103890.68	103695.05
52 Cr # 2	31.48	31.48	ug/l	0.32	1800.00		88203.91	89689.73	89762.25
55 Mn # 3	1286	1286	ug/l	1.54	1800.00		21731734.00	21848054.00	22326552.00
56 Fe # 1	48660	48660	ug/l	24.60	81000.00		382557440.00	383058560.00	402237570.00
59 Co # 3	20.84	20.84	ug/l	0.69	1800.00		268503.03	271017.69	269262.72
60 Ni # 2	38.3	38.3	ug/l	0.58	1800.00		39754.75	40008.60	40741.39
63 Cu # 2	30.8	30.8	ug/l	0.95	1800.00		88637.38	88977.91	88923.34
66 Zn # 3	112.7	112.7	ug/l	0.87	1800.00		211279.70	212584.39	213567.16
75 As # 2	15.9	15.9	ug/l	1.31	100.00		4856.32	4818.65	4963.35
78 Se # 1	0.5512	0.5512	ug/l	32.77	100.00		136.33	120.33	141.33
88 Sr # 3	33.48	33.48	ug/l	0.20	1800.00		1151744.60	1163967.40	1165675.40
95 Mo # 3	1.659	1.659	ug/l	0.37	1800.00		6107.87	6154.57	6187.92
107 Ag # 3	0.04688	0.04688	ug/l	3.11	100.00		583.36	610.03	580.03
111 Cd # 3	0.2622	0.2622	ug/l	2.18	100.00		565.35	595.34	588.67
118 Sn # 3	3.162	3.162	ug/l	2.41	1800.00		22251.47	23202.74	22131.29
121 Sb # 3	0.2836	0.2836	ug/l	1.55	100.00		2400.25	2356.89	2410.24
137 Ba # 3	172	172	ug/l	0.95	1800.00		626082.31	627691.31	638593.25
202 Hg # 3	0.03106	0.03106	ug/l	29.55	5.00		197.34	245.68	200.34
205 Tl # 3	0.3019	0.3019	ug/l	2.56	20.00		7792.13	8155.69	7945.55
208 Pb # 3	30.83	30.83	ug/l	0.22	1800.00		1077343.90	1080777.30	1090375.10
232 Th # 3	10.21	10.21	ug/l	1.08	#VALUE!		372363.63	374090.03	375613.78
238 U # 3	1.16	1.16	ug/l	1.52	#VALUE!		44258.05	44455.32	44097.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	376814.47	0.99	442436.88	85.2	60 - 125		372814.47	377435.47	380193.47
45 Sc # 1	427051.44	19.35	456299.72	93.6	60 - 125		458948.63	488979.56	333226.16
45 Sc # 3	778250.56	0.64	765061.25	101.7	60 - 125		773133.44	783001.00	778617.25
74 Ge # 1	126239.17	19.53	153441.28	82.3	60 - 125		136586.66	144028.91	98101.95
74 Ge # 2	40269.16	1.12	47804.94	84.2	60 - 125		39773.26	40374.56	40659.67
74 Ge # 3	199333.09	1.12	224564.78	88.8	60 - 125		196968.98	201420.72	199609.58
89 Y # 3	1783542.50	0.47	1302847.50	136.9	60 - 125	IS I	1774072.00	1786244.10	1790311.00
115 In # 3	1230354.60	0.55	1366177.60	90.1	60 - 125		1222620.60	1235294.50	1233148.90
159 Tb # 3	1902769.10	0.70	2052817.90	92.7	60 - 125		1895797.90	1894357.60	1918151.40
209 Bi # 3	1225359.50	1.45	1405468.50	87.2	60 - 125		1204913.50	1234445.40	1236719.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\257SMPL.D\257SMPL.D#
 Date Acquired: Aug 25 2014 05:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-11-c
 Misc Info: 3005 1/5
 Vial Number: 3207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.262	1.262	ug/l	5.56	100.00		2180.18	2043.50	1966.82
11 B # 3	5.917	5.917	ug/l	3.49	1800.00		9742.65	9866.04	9425.83
23 Na # 1	546.6	546.6	ug/l	0.45	81000.00		1991776.00	1996443.10	1983449.50
24 Mg # 1	4625	4625	ug/l	0.41	81000.00		11252787.00	11186575.00	11298308.00
27 Al # 1	18000	18000	ug/l	0.40	81000.00		51790704.00	52029312.00	51991644.00
39 K # 2	1708	1708	ug/l	1.44	81000.00		534313.94	529232.31	544704.19
40 Ca # 1	8046	8046	ug/l	0.94	81000.00		53488504.00	53448840.00	54347772.00
47 Ti # 3	148.8	148.8	ug/l	0.83	1620.00		173657.55	174752.80	174747.06
51 V # 2	45.05	45.05	ug/l	1.01	1800.00		106736.66	107726.60	109153.48
52 Cr # 2	26.1	26.1	ug/l	1.29	1800.00		74949.02	75636.18	77029.48
55 Mn # 3	1950	1950	ug/l	0.59	1800.00	Fail	33067816.00	33192172.00	33737132.00
56 Fe # 1	41210	41210	ug/l	0.47	81000.00		358369700.00	360506720.00	358889020.00
59 Co # 3	20.37	20.37	ug/l	0.25	1800.00		263718.56	262350.06	265338.25
60 Ni # 2	50.15	50.15	ug/l	0.73	1800.00		53548.11	53708.53	54396.01
63 Cu # 2	29.06	29.06	ug/l	1.00	1800.00		85320.86	85490.59	87036.43
66 Zn # 3	101.1	101.1	ug/l	0.58	1800.00		189267.58	191390.44	191647.20
75 As # 2	16.98	16.98	ug/l	0.44	100.00		5346.46	5314.45	5361.46
78 Se # 1	0.3535	0.3535	ug/l	2.90	100.00		102.00	104.33	99.00
88 Sr # 3	27.19	27.19	ug/l	1.11	1800.00		1017188.90	1042054.30	1022198.10
95 Mo # 3	1.041	1.041	ug/l	3.30	1800.00		3760.52	4033.90	4020.57
107 Ag # 3	0.07382	0.07382	ug/l	2.83	100.00		866.72	850.05	906.72
111 Cd # 3	0.6846	0.6846	ug/l	3.36	100.00		1479.29	1582.56	1522.56
118 Sn # 3	2.769	2.769	ug/l	2.07	1800.00		20262.28	19671.65	20082.17
121 Sb # 3	0.1724	0.1724	ug/l	5.19	100.00		1390.10	1483.44	1573.46
137 Ba # 3	141.8	141.8	ug/l	1.24	1800.00		522712.19	528833.88	524607.50
202 Hg # 3	0.02233	0.02233	ug/l	39.06	5.00		215.01	167.33	179.00
205 Tl # 3	0.2705	0.2705	ug/l	0.70	20.00		7011.77	7171.85	7205.20
208 Pb # 3	23.69	23.69	ug/l	1.10	1800.00		831099.75	824941.56	831289.44
232 Th # 3	10.72	10.72	ug/l	0.68	#VALUE!		392785.59	394786.94	394784.69
238 U # 3	0.8935	0.8935	ug/l	1.30	#VALUE!		33637.52	34489.39	34559.51

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	377830.16	0.41	442436.88	85.4	60 - 125		376929.63	376925.00	379635.81
45 Sc # 1	450633.88	0.17	456299.72	98.8	60 - 125		451351.00	449860.59	450689.97
45 Sc # 3	795717.63	0.85	765061.25	104.0	60 - 125		793589.13	803308.06	790255.63
74 Ge # 1	135963.27	0.42	153441.28	88.6	60 - 125		135493.11	136599.55	135797.14
74 Ge # 2	41272.09	0.12	47804.94	86.3	60 - 125		41217.58	41279.82	41318.90
74 Ge # 3	199487.44	0.49	224564.78	88.8	60 - 125		198947.03	198896.66	200618.64
89 Y # 3	1943641.00	0.17	1302847.50	149.2	60 - 125	IS I	1941289.10	1947359.10	1942274.50
115 In # 3	1242859.90	1.16	1366177.60	91.0	60 - 125		1230436.00	1239452.10	1258691.50
159 Tb # 3	1895620.60	0.81	2052817.90	92.3	60 - 125		1877893.50	1905052.50	1903915.80
209 Bi # 3	1229495.30	0.76	1405468.50	87.5	60 - 125		1224703.40	1223492.60	1240289.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\258SMPL.D\258SMPL.D#
 Date Acquired: Aug 25 2014 05:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104257-b-13-c
 Misc Info: 3005 1/5
 Vial Number: 3208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	1.793	1.793	ug/l	6.23	100.00		3290.35	3060.31	2976.98
11 B #3	16.52	16.52	ug/l	1.60	1800.00		24035.16	24989.76	25140.04
23 Na #1	207.6	207.6	ug/l	1.14	81000.00		934351.13	951400.06	944028.31
24 Mg #1	12490	12490	ug/l	0.62	81000.00		35171464.00	35173904.00	35046928.00
27 Al #1	25930	25930	ug/l	0.59	81000.00		86757232.00	86505416.00	86363096.00
39 K #2	4477	4477	ug/l	1.24	81000.00		1473921.40	1491854.50	1500679.50
40 Ca #1	48490	48490	ug/l	0.36	81000.00		374328100.00	374600350.00	374824030.00
47 Ti #3	107.6	107.6	ug/l	1.24	1620.00		147165.19	147356.64	149446.03
51 V #2	46.41	46.41	ug/l	0.83	1800.00		118891.23	119430.98	119573.50
52 Cr #2	48.7	48.7	ug/l	0.50	1800.00		151277.33	152358.47	151547.20
55 Mn #3	1333	1333	ug/l	0.72	1800.00		24806850.00	24849224.00	24955082.00
56 Fe #1	58860	58860	ug/l	0.54	81000.00		590768830.00	595408580.00	594113280.00
59 Co #3	28.27	28.27	ug/l	0.32	1800.00		399760.97	399202.66	398959.09
60 Ni #2	61.47	61.47	ug/l	1.11	1800.00		70761.83	70742.06	71231.48
63 Cu #2	44.36	44.36	ug/l	0.83	1800.00		139743.55	141112.63	141107.03
66 Zn #3	146.4	146.4	ug/l	1.25	1800.00		298701.09	301004.16	303773.19
75 As #2	11.74	11.74	ug/l	0.80	100.00		3976.78	3970.11	3964.11
78 Se #1	0.4838	0.4838	ug/l	7.91	100.00		149.00	143.67	130.33
88 Sr #3	87.07	87.07	ug/l	0.03	1800.00		3705858.80	3768685.00	3760434.00
95 Mo #3	1.54	1.54	ug/l	3.64	1800.00		6081.23	5931.17	6294.60
107 Ag #3	0.03864	0.03864	ug/l	11.94	100.00		583.36	496.69	543.36
111 Cd #3	0.1206	0.1206	ug/l	5.43	100.00		268.67	298.71	301.96
118 Sn #3	3.171	3.171	ug/l	1.06	1800.00		23790.14	24147.38	24394.33
121 Sb #3	0.1038	0.1038	ug/l	9.08	100.00		863.38	970.06	1043.40
137 Ba #3	91.3	91.3	ug/l	1.13	1800.00		356717.06	357618.28	358022.19
202 Hg #3	0.009485	0.009485	ug/l	50.61	5.00		161.00	139.33	168.33
205 Tl #3	0.2319	0.2319	ug/l	1.21	20.00		6308.13	6548.21	6551.55
208 Pb #3	20.77	20.77	ug/l	0.71	1800.00		763487.25	766047.00	768829.56
232 Th #3	12.72	12.72	ug/l	0.57	#VALUE!		467407.28	470808.44	474080.63
238 U #3	1.289	1.289	ug/l	0.98	#VALUE!		49544.13	50005.41	49530.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	400864.97	0.98	442436.88	90.6	60 - 125		396428.22	402184.88	403981.78
45 Sc #1	521214.53	0.41	456299.72	114.2	60 - 125		520221.38	519748.13	523674.06
45 Sc #3	934254.44	1.48	765061.25	122.1	60 - 125		918333.75	942493.00	941936.88
74 Ge #1	144669.08	0.14	153441.28	94.3	60 - 125		144833.38	144445.88	144727.97
74 Ge #2	44319.60	0.81	47804.94	92.7	60 - 125		44190.09	44724.64	44044.07
74 Ge #3	217606.13	0.41	224564.78	96.9	60 - 125		218362.78	217828.23	216627.36
89 Y #3	2213828.00	0.91	1302847.50	169.9	60 - 125	IS I	2190763.50	2228419.00	2222301.30
115 In #3	1313570.30	1.26	1366177.60	96.1	60 - 125		1296176.10	1329088.40	1315445.90
159 Tb #3	1997265.80	1.01	2052817.90	97.3	60 - 125		1974176.60	2006165.60	2011454.80
209 Bi #3	1238049.60	0.49	1405468.50	88.1	60 - 125		1237138.50	1232526.60	1244483.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\259SMPL.D\259SMPL.D#
 Date Acquired: Aug 25 2014 05:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-1-b
 Misc Info: 3005 1/5
 Vial Number: 3209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	1.957	1.957	ug/l	5.67	100.00		3443.72	3077.00	3257.02
11 B #3	1.003	1.003	ug/l	9.52	1800.00		3563.76	3347.04	3377.05
23 Na #1	157.7	157.7	ug/l	0.61	81000.00		816008.75	828093.94	824165.69
24 Mg #1	13780	13780	ug/l	0.32	81000.00		42756808.00	42859360.00	43046448.00
27 Al #1	23400	23400	ug/l	0.20	81000.00		86185520.00	86493232.00	86669616.00
39 K #2	12430	12430	ug/l	0.25	81000.00		4006404.50	4023744.00	3990762.00
40 Ca #1	908.4	908.4	ug/l	0.58	81000.00		7730460.00	7834039.00	7836752.50
47 Ti #3	2642	2642	ug/l	0.66	1620.00	Fail	3866460.00	3837946.50	3891778.30
51 V #2	103.6	103.6	ug/l	0.31	1800.00		257792.97	260302.11	259595.16
52 Cr #2	108.9	108.9	ug/l	0.19	1800.00		328989.44	331979.41	330175.81
55 Mn #3	398.9	398.9	ug/l	0.28	1800.00		7144538.00	7202998.00	7251463.00
56 Fe #1	29670	29670	ug/l	0.39	81000.00		331328580.00	330393760.00	331662940.00
59 Co #3	16.35	16.35	ug/l	1.07	1800.00		223387.11	225523.91	221635.33
60 Ni #2	51.56	51.56	ug/l	0.66	1800.00		57860.95	57791.78	58290.06
63 Cu #2	8.581	8.581	ug/l	0.54	1800.00		26791.70	26799.50	26960.85
66 Zn #3	37.2	37.2	ug/l	1.00	1800.00		73188.96	74882.56	75394.96
75 As #2	0.9664	0.9664	ug/l	1.89	100.00		336.34	333.00	324.67
78 Se #1	0.185	0.185	ug/l	10.96	100.00		66.33	70.33	61.00
88 Sr #3	5.625	5.625	ug/l	0.69	1800.00		180536.41	182955.02	183990.98
95 Mo #3	0.171	0.171	ug/l	7.20	1800.00		706.70	790.05	760.04
107 Ag #3	-0.001191	-0.001191	ug/l	198.49	100.00		100.00	130.00	83.34
111 Cd #3	0.01242	0.01242	ug/l	39.41	100.00		29.85	46.49	26.50
118 Sn #3	3.856	3.856	ug/l	1.87	1800.00		27612.51	27983.08	28904.76
121 Sb #3	0.005171	0.005171	ug/l	63.45	100.00		63.34	113.34	70.00
137 Ba #3	241.3	241.3	ug/l	0.94	1800.00		911170.50	911105.31	913768.44
202 Hg #3	-0.01603	-0.01603	ug/l	30.13	5.00		79.00	81.34	54.67
205 Tl #3	0.2873	0.2873	ug/l	1.64	20.00		7501.99	7648.76	7772.17
208 Pb #3	2.289	2.289	ug/l	1.11	1800.00		82942.41	81582.66	82060.59
232 Th #3	11.32	11.32	ug/l	0.79	#VALUE!		398482.97	399288.84	399812.38
238 U #3	1.289	1.289	ug/l	1.11	#VALUE!		46878.66	47099.91	48056.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	384851.94	0.49	442436.88	87.0	60 - 125		383775.34	383752.19	387028.28
45 Sc #1	576941.13	0.24	456299.72	126.4	60 - 125	IS I	575514.19	578213.19	577095.94
45 Sc #3	994509.88	0.78	765061.25	130.0	60 - 125	IS I	987606.00	993033.81	1002889.60
74 Ge #1	144405.25	0.70	153441.28	94.1	60 - 125		143749.50	143890.50	145575.78
74 Ge #2	43192.84	0.29	47804.94	90.4	60 - 125		43103.03	43335.73	43139.77
74 Ge #3	210573.45	0.57	224564.78	93.8	60 - 125		209209.63	211095.25	211415.44
89 Y #3	1668128.00	0.37	1302847.50	128.0	60 - 125	IS I	1661227.50	1673284.80	1669871.60
115 In #3	1268330.40	1.08	1366177.60	92.8	60 - 125		1268931.60	1254382.50	1281677.10
159 Tb #3	1915257.00	0.25	2052817.90	93.3	60 - 125		1909981.60	1919173.80	1916615.80
209 Bi #3	1179162.90	0.93	1405468.50	83.9	60 - 125		1166598.40	1186614.90	1184275.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\260SMPL.D\260SMPL.D#
 Date Acquired: Aug 25 2014 06:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-2-b
 Misc Info: 3005 1/5
 Vial Number: 3210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	2.087	2.087	ug/l	5.80	100.00		3437.07	3310.36	3046.99
11 B #3	1.068	1.068	ug/l	10.59	1800.00		3470.42	3200.35	3230.36
23 Na #1	186.1	186.1	ug/l	0.45	81000.00		951772.06	945453.63	941896.88
24 Mg #1	11990	11990	ug/l	0.62	81000.00		37416776.00	37308128.00	36984184.00
27 Al #1	29580	29580	ug/l	0.67	81000.00		108772170.00	109366820.00	108923930.00
39 K #2	11250	11250	ug/l	0.78	81000.00		3509210.80	3546724.00	3506313.30
40 Ca #1	1287	1287	ug/l	0.83	81000.00		11011747.00	11078470.00	10956567.00
47 Ti #3	2264	2264	ug/l	0.14	1620.00	Fail	3253076.30	3254866.50	3190857.00
51 V #2	136.5	136.5	ug/l	0.32	1800.00		332188.44	331152.34	331538.81
52 Cr #2	99.2	99.2	ug/l	0.37	1800.00		290490.28	291715.47	293934.16
55 Mn #3	695.5	695.5	ug/l	0.33	1800.00		11919350.00	11927268.00	11846285.00
56 Fe #1	37580	37580	ug/l	0.95	81000.00		416321570.00	416561860.00	422463070.00
59 Co #3	23.73	23.73	ug/l	1.27	1800.00		311585.63	306509.28	304270.97
60 Ni #2	38.1	38.1	ug/l	0.75	1800.00		41615.45	41809.28	41365.96
63 Cu #2	45.51	45.51	ug/l	0.88	1800.00		136468.11	137457.56	135600.61
66 Zn #3	71.92	71.92	ug/l	0.61	1800.00		136737.19	135995.88	135149.59
75 As #2	1.602	1.602	ug/l	5.05	100.00		510.68	553.34	508.68
78 Se #1	0.4005	0.4005	ug/l	2.39	100.00		117.67	115.33	114.33
88 Sr #3	6.279	6.279	ug/l	0.67	1800.00		211319.97	208223.69	210474.39
95 Mo #3	0.5615	0.5615	ug/l	1.25	1800.00		2146.86	2130.19	2140.19
107 Ag #3	0.008921	0.008921	ug/l	14.01	100.00		220.01	190.01	200.01
111 Cd #3	0.02854	0.02854	ug/l	6.90	100.00		72.86	69.53	62.86
118 Sn #3	3.55	3.55	ug/l	0.91	1800.00		25218.93	25081.95	24854.97
121 Sb #3	0.02576	0.02576	ug/l	16.53	100.00		233.34	226.68	286.68
137 Ba #3	361.6	361.6	ug/l	1.48	1800.00		1323092.80	1304283.80	1325862.80
202 Hg #3	-0.004391	-0.004391	ug/l	78.52	5.00		108.67	110.67	92.33
205 Tl #3	0.5958	0.5958	ug/l	1.35	20.00		15034.20	14984.19	15401.25
208 Pb #3	9.056	9.056	ug/l	0.28	1800.00		310123.97	311264.78	311421.78
232 Th #3	9.564	9.564	ug/l	2.07	#VALUE!		324991.16	324663.44	324038.25
238 U #3	2.124	2.124	ug/l	2.33	#VALUE!		75586.13	74587.93	74989.59

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	361396.00	0.31	442436.88	81.7	60 - 125		362586.66	361282.97	360318.44
45 Sc #1	575625.00	0.40	456299.72	126.2	60 - 125	IS I	577978.25	573422.44	575474.38
45 Sc #3	970539.13	0.98	765061.25	126.9	60 - 125	IS I	975925.31	976187.56	959504.56
74 Ge #1	139484.17	1.04	153441.28	90.9	60 - 125		139539.55	138007.91	140905.08
74 Ge #2	41925.43	0.24	47804.94	87.7	60 - 125		41854.59	41880.13	42041.58
74 Ge #3	199599.30	0.14	224564.78	88.9	60 - 125		199404.27	199924.77	199468.84
89 Y #3	1719749.00	0.77	1302847.50	132.0	60 - 125	IS I	1734974.80	1713778.90	1710493.40
115 In #3	1222780.80	1.44	1366177.60	89.5	60 - 125		1242920.90	1215071.40	1210350.00
159 Tb #3	1854177.60	0.19	2052817.90	90.3	60 - 125		1854216.90	1850727.50	1857588.80
209 Bi #3	1134902.40	2.18	1405468.50	80.7	60 - 125		1144829.60	1153117.90	1106759.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 3 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\261SMPL.D\261SMPL.D#
 Date Acquired: Aug 25 2014 06:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-3-b
 Misc Info: 3005 1/5
 Vial Number: 3211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.309	1.309	ug/l	3.22	100.00		1840.14	2006.83	1916.81
11 B # 3	0.5902	0.5902	ug/l	18.28	1800.00		2610.23	2430.21	2596.90
23 Na # 1	222.5	222.5	ug/l	0.89	81000.00		823380.63	814231.19	818729.44
24 Mg # 1	10830	10830	ug/l	0.53	81000.00		24863844.00	24740088.00	24948290.00
27 Al # 1	21280	21280	ug/l	0.88	81000.00		58335864.00	57583792.00	57965992.00
39 K # 2	9440	9440	ug/l	0.75	81000.00		2637291.30	2683022.80	2691034.50
40 Ca # 1	1730	1730	ug/l	0.50	81000.00		10937108.00	10975951.00	10881463.00
47 Ti # 3	2195	2195	ug/l	2.12	1620.00	Fail	2430704.80	2486794.80	2511190.30
51 V # 2	64.51	64.51	ug/l	0.98	1800.00		140450.03	141865.25	142551.11
52 Cr # 2	58.1	58.1	ug/l	1.19	1800.00		153616.42	154882.97	155267.19
55 Mn # 3	450.6	450.6	ug/l	0.66	1800.00		7126064.00	7296408.00	7331495.50
56 Fe # 1	30010	30010	ug/l	0.52	81000.00		247790930.00	246528420.00	246739520.00
59 Co # 3	13.91	13.91	ug/l	0.51	1800.00		168485.50	169142.34	170883.08
60 Ni # 2	37.85	37.85	ug/l	0.70	1800.00		36937.86	37328.59	37717.23
63 Cu # 2	22.51	22.51	ug/l	1.33	1800.00		60973.31	60884.06	61632.20
66 Zn # 3	27.21	27.21	ug/l	1.12	1800.00		47592.06	49176.29	49376.56
75 As # 2	0.9106	0.9106	ug/l	1.22	100.00		271.67	271.34	280.34
78 Se # 1	0.1283	0.1283	ug/l	6.34	100.00		46.00	42.67	43.33
88 Sr # 3	5.965	5.965	ug/l	0.68	1800.00		172497.53	173921.03	174319.11
95 Mo # 3	0.138	0.138	ug/l	7.83	1800.00		533.36	613.36	600.03
107 Ag # 3	0.006334	0.006334	ug/l	18.01	100.00		163.34	183.34	163.34
111 Cd # 3	0.0205	0.0205	ug/l	47.08	100.00		53.22	26.53	66.54
118 Sn # 3	2.927	2.927	ug/l	1.12	1800.00		19845.08	19765.08	20215.54
121 Sb # 3	0.007754	0.007754	ug/l	10.53	100.00		100.00	100.00	90.00
137 Ba # 3	139.6	139.6	ug/l	0.10	1800.00		483439.31	490138.69	492137.06
202 Hg # 3	-0.01587	-0.01587	ug/l	17.58	5.00		68.00	76.34	59.67
205 Tl # 3	0.5169	0.5169	ug/l	3.66	20.00		12541.96	12541.93	13332.62
208 Pb # 3	3.058	3.058	ug/l	0.11	1800.00		102158.37	103780.55	103170.57
232 Th # 3	5.5	5.5	ug/l	3.49	#VALUE!		185935.38	187073.14	187364.94
238 U # 3	2.522	2.522	ug/l	3.90	#VALUE!		88923.46	89556.84	88842.82

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	339185.94	1.36	442436.88	76.7	60 - 125		333853.91	342117.47	341586.47
45 Sc # 1	425440.41	0.24	456299.72	93.2	60 - 125		424251.41	426149.75	425920.09
45 Sc # 3	766891.56	3.58	765061.25	100.2	60 - 125		735261.63	783918.56	781494.44
74 Ge # 1	122872.38	0.51	153441.28	80.1	60 - 125		122885.57	122241.33	123490.26
74 Ge # 2	37870.71	1.73	47804.94	79.2	60 - 125		37182.27	37946.06	38483.80
74 Ge # 3	187760.17	1.21	224564.78	83.6	60 - 125		185590.89	187566.59	190123.05
89 Y # 3	1496192.10	1.07	1302847.50	114.8	60 - 125		1483477.80	1491011.90	1514086.90
115 In # 3	1174038.40	1.03	1366177.60	85.9	60 - 125		1160392.00	1178359.80	1183363.50
159 Tb # 3	1804493.10	0.88	2052817.90	87.9	60 - 125		1788174.80	1819716.90	1805587.60
209 Bi # 3	1135929.30	3.86	1405468.50	80.8	60 - 125		1089889.80	1140678.50	1177219.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\262SMPL.D\262SMPL.D#
 Date Acquired: Aug 25 2014 06:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-4-b
 Misc Info: 3005 1/5
 Vial Number: 3212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.002	2.002	ug/l	0.93	100.00		2886.96	2956.98	2983.63
11 B # 3	0.9983	0.9983	ug/l	2.67	1800.00		3023.65	3020.31	3016.99
23 Na # 1	336.1	336.1	ug/l	1.14	81000.00		1421208.90	1432706.60	1415286.30
24 Mg # 1	35680	35680	ug/l	0.15	81000.00		97350048.00	97903656.00	98464960.00
27 Al # 1	46820	46820	ug/l	0.47	81000.00		151285100.00	151929230.00	154293810.00
39 K # 2	27850	27850	ug/l	1.74	81000.00		7872195.00	7933931.50	8158718.00
40 Ca # 1	4055	4055	ug/l	0.51	81000.00		30312070.00	30529996.00	30955520.00
47 Ti # 3	4214	4214	ug/l	0.47	1620.00	Fail	5689322.00	5773372.00	5720090.50
51 V # 2	215.5	215.5	ug/l	1.08	1800.00		476483.53	479304.16	485708.81
52 Cr # 2	387.2	387.2	ug/l	0.40	1800.00		1028636.50	1054664.00	1053784.00
55 Mn # 3	1369	1369	ug/l	0.64	1800.00		21949490.00	22293256.00	22249312.00
56 Fe # 1	65000	65000	ug/l	0.22	81000.00		637792450.00	636851140.00	644038720.00
59 Co # 3	52.3	52.3	ug/l	0.54	1800.00		636724.88	644695.38	641873.69
60 Ni # 2	172	172	ug/l	0.85	1800.00		171238.33	172344.55	173170.38
63 Cu # 2	24.28	24.28	ug/l	0.95	1800.00		66853.35	67156.68	67099.77
66 Zn # 3	125.5	125.5	ug/l	0.27	1800.00		223075.23	223581.53	225719.66
75 As # 2	1.347	1.347	ug/l	4.20	100.00		417.34	411.01	391.01
78 Se # 1	0.2555	0.2555	ug/l	8.17	100.00		66.33	75.33	71.67
88 Sr # 3	17.57	17.57	ug/l	0.37	1800.00		596875.63	600004.06	599261.81
95 Mo # 3	0.2236	0.2236	ug/l	4.30	1800.00		893.39	853.38	840.04
107 Ag # 3	0.009832	0.009832	ug/l	10.61	100.00		210.01	196.67	193.34
111 Cd # 3	0.07003	0.07003	ug/l	6.54	100.00		159.81	143.15	146.49
118 Sn # 3	4.073	4.073	ug/l	0.34	1800.00		26928.15	26891.41	27098.38
121 Sb # 3	0.01229	0.01229	ug/l	15.58	100.00		123.34	146.67	120.00
137 Ba # 3	563.7	563.7	ug/l	0.61	1800.00		1927123.80	1940207.50	1935278.30
202 Hg # 3	-0.008777	-0.008777	ug/l	44.36	5.00		95.00	92.00	75.67
205 Tl # 3	1.401	1.401	ug/l	0.78	20.00		33830.03	33659.72	34762.14
208 Pb # 3	5.563	5.563	ug/l	1.38	1800.00		185300.52	184817.86	183712.86
232 Th # 3	8.433	8.433	ug/l	0.50	#VALUE!		264388.41	262718.03	267288.97
238 U # 3	2.008	2.008	ug/l	0.57	#VALUE!		65132.15	65677.90	66135.78

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	339563.66	0.91	442436.88	76.7	60 - 125		336752.94	339067.13	342870.91
45 Sc # 1	508654.50	0.57	456299.72	111.5	60 - 125		506327.47	507745.81	511890.19
45 Sc # 3	923648.00	0.53	765061.25	120.7	60 - 125		918032.25	926387.69	926523.94
74 Ge # 1	122876.15	0.55	153441.28	80.1	60 - 125		122376.89	122609.68	123641.89
74 Ge # 2	38493.17	1.18	47804.94	80.5	60 - 125		37989.58	38873.52	38616.41
74 Ge # 3	188889.14	0.37	224564.78	84.1	60 - 125		188261.64	188769.77	189636.02
89 Y # 3	1753155.40	0.10	1302847.50	134.6	60 - 125	IS F	1755057.50	1751504.40	1752904.40
115 In # 3	1151309.90	0.66	1366177.60	84.3	60 - 125		1145162.30	1149029.40	1159737.90
159 Tb # 3	1787436.60	1.00	2052817.90	87.1	60 - 125		1783289.10	1772044.40	1806976.90
209 Bi # 3	1049655.00	0.38	1405468.50	74.7	60 - 125		1048326.10	1046515.00	1054123.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 : Element Failures 0 : Max. Number of Failures Allowed
 1 : ISTD Failures 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\263_CCV.D\263_CCV.D#
 Date Acquired: Aug 25 2014 06:23 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.15 ug/l	0.67	50.00	89.5 - 110		74069.56	73828.96	75404.43
11 B	94.5 ug/l	0.77	100.00	89.5 - 110		114020.59	114130.38	115023.73
23 Na	5034 ug/l	0.44	5000.00	89.5 - 110		14056755.00	14125693.00	14146268.00
24 Mg	5009 ug/l	0.75	5000.00	89.5 - 110		9822650.00	9801756.00	9760812.00
27 Al	517 ug/l	1.10	500.00	89.5 - 110		1208925.30	1198320.00	1195709.40
39 K	4741 ug/l	1.07	5000.00	89.5 - 110		1409994.60	1435750.40	1458086.60
40 Ca	5200 ug/l	0.62	5000.00	89.5 - 110		27992556.00	28011232.00	27861562.00
47 Ti	51.33 ug/l	0.51	50.00	89.5 - 110		48035.23	48817.26	49298.66
51 V	47.74 ug/l	0.67	50.00	89.5 - 110		110891.54	111739.59	112577.18
52 Cr	47.56 ug/l	0.66	50.00	89.5 - 110		134086.30	134835.81	135784.86
55 Mn	494.1 ug/l	0.19	500.00	89.5 - 110		8337830.50	8528501.00	8518894.00
56 Fe	5454 ug/l	0.91	5000.00	89.5 - 110		38293832.00	38084448.00	38352472.00
59 Co	48.44 ug/l	0.58	50.00	89.5 - 110		623158.25	631849.19	629185.31
60 Ni	49.04 ug/l	1.22	50.00	89.5 - 110		50853.82	51846.66	51831.03
63 Cu	47.95 ug/l	1.15	50.00	89.5 - 110		137712.52	138894.69	138510.81
66 Zn	48.43 ug/l	0.99	50.00	89.5 - 110		91587.72	92059.92	91798.85
75 As	49.49 ug/l	1.04	50.00	89.5 - 110		15164.61	15203.98	15207.32
78 Se	50.71 ug/l	0.69	50.00	89.5 - 110		11432.93	11394.24	11431.27
88 Sr	48.13 ug/l	1.64	50.00	89.5 - 110		1109574.80	1111728.00	1120299.60
95 Mo	48.69 ug/l	1.10	50.00	89.5 - 110		175765.09	180183.06	177525.33
107 Ag	47.64 ug/l	0.76	50.00	89.5 - 110		482013.22	490014.88	486809.06
111 Cd	48 ug/l	0.80	50.00	89.5 - 110		105246.94	105263.05	107033.95
118 Sn	49.03 ug/l	0.81	50.00	89.5 - 110		338332.28	342005.59	340695.34
121 Sb	48.29 ug/l	0.85	50.00	89.5 - 110		398817.22	403466.09	401361.81
137 Ba	48.79 ug/l	0.39	50.00	89.5 - 110		177588.02	179975.17	180297.89
202 Hg	2.511 ug/l	1.48	2.50	89.5 - 110		7388.06	7552.14	7337.70
205 Tl	9.521 ug/l	0.28	10.00	89.5 - 110		234373.30	235619.14	234320.09
208 Pb	47.68 ug/l	0.86	50.00	89.5 - 110		1592500.80	1595475.40	1615781.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	350112.06	1.20	442436.88	79.1	60 - 125		346156.00	349675.88	354504.34
45 Sc	362433.03	0.60	456299.72	79.4	60 - 125		360351.78	364670.41	362276.97
45 Sc	643726.00	1.05	765061.25	84.1	60 - 125		635956.81	647556.94	647664.19
74 Ge	129649.68	0.51	153441.28	84.5	60 - 125		128964.73	130294.21	129690.09
74 Ge	40347.45	1.11	47804.94	84.4	60 - 125		40136.24	40046.06	40860.04
74 Ge	199788.84	1.17	224564.78	89.0	60 - 125		197102.44	200918.75	201345.31
89 Y	1191345.80	1.71	1302847.50	91.4	60 - 125		1170061.30	1210702.80	1193273.00
115 In	1232603.60	1.17	1366177.60	90.2	60 - 125		1216713.90	1236245.80	1244851.50
159 Tb	1820178.50	0.07	2052817.90	88.7	60 - 125		1820849.10	1820955.40	1818731.00
209 Bi	1188403.50	1.61	1405468.50	84.6	60 - 125		1171834.50	1184037.40	1209338.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\264_CCB.D\264_CCB.D#
 Date Acquired: Aug 25 2014 06:30 pm
 Acq. Method: BPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\BPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\BPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0008423	0.0008423	ug/l	146.03	#VALUE!		0.00	3.33	3.33
11 B #3	1.406	1.406	ug/l	4.10	#VALUE!		3740.45	3633.74	3727.13
23 Na #1	-11.4	-11.4	ug/l	0.66	#VALUE!		46152.52	46934.36	46723.79
24 Mg #1	0.6759	0.6759	ug/l	9.80	#VALUE!		2396.89	2173.53	2193.52
27 Al #1	0.8153	0.8153	ug/l	11.15	#VALUE!		3523.75	3273.70	3113.67
39 K #2	-11.59	-11.59	ug/l	4.87	#VALUE!		8242.04	8218.75	7908.58
40 Ca #1	0.6792	0.6792	ug/l	13.95	#VALUE!		25607.79	24789.95	25103.85
47 Ti #3	0.1245	0.1245	ug/l	24.72	#VALUE!		216.68	180.01	240.01
51 V #2	-0.02259	-0.02259	ug/l	12.68	#VALUE!		155.56	148.89	161.11
52 Cr #2	-0.017	-0.017	ug/l	29.58	#VALUE!		261.12	250.00	232.23
55 Mn #3	0.03403	0.03403	ug/l	18.92	#VALUE!		1780.14	1890.16	2036.83
56 Fe #1	2.349	2.349	ug/l	8.35	#VALUE!		22090.31	19984.53	19614.11
59 Co #3	0.001287	0.001287	ug/l	37.34	#VALUE!		76.67	73.34	86.67
60 Ni #2	-0.003283	-0.003283	ug/l	152.82	#VALUE!		41.11	47.78	36.67
63 Cu #2	-0.05169	-0.05169	ug/l	10.50	#VALUE!		227.78	235.56	257.78
66 Zn #3	-0.07033	-0.07033	ug/l	22.59	#VALUE!		423.35	413.35	476.69
75 As #2	0.006196	0.006196	ug/l	177.70	#VALUE!		18.33	11.67	16.00
78 Se #1	-0.03232	-0.03232	ug/l	37.69	#VALUE!		13.33	10.67	7.67
88 Sr #3	-3.91E-006	-3.91E-006	ug/l	27010.00	#VALUE!		123.34	143.34	173.34
95 Mo #3	0.01737	0.01737	ug/l	52.19	#VALUE!		206.67	173.34	140.00
107 Ag #3	-0.0005468	-0.0005468	ug/l	115.80	#VALUE!		110.00	116.67	103.34
111 Cd #3	0.0002412	0.0002412	ug/l	2.28	#VALUE!		6.62	6.63	6.64
118 Sn #3	0.09778	0.09778	ug/l	10.45	#VALUE!		1306.76	1323.43	1440.11
121 Sb #3	0.0212	0.0212	ug/l	9.50	#VALUE!		233.34	216.67	200.01
137 Ba #3	0.009323	0.009323	ug/l	72.90	#VALUE!		43.33	76.67	93.34
202 Hg #3	0.009323	0.009323	ug/l	14.40	#VALUE!		142.00	145.00	139.67
205 Tl #3	-0.001402	-0.001402	ug/l	95.36	#VALUE!		176.67	150.01	113.34
208 Pb #3	-0.02164	-0.02164	ug/l	8.13	#VALUE!		516.69	593.36	643.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	359896.22	1.06	442436.88	81.3	60 - 125		356368.38	359392.97	363927.34
45 Sc #1	371768.63	0.44	456299.72	81.5	60 - 125		370140.00	373383.75	371782.22
45 Sc #3	642907.31	0.90	765061.25	84.0	60 - 125		638034.06	641383.38	649304.50
74 Ge #1	132806.22	0.30	153441.28	86.6	60 - 125		133139.02	132908.47	132371.16
74 Ge #2	41231.63	0.53	47804.94	86.2	60 - 125		41098.41	41484.72	41111.77
74 Ge #3	199500.73	0.99	224564.78	88.8	60 - 125		197919.55	198855.33	201727.34
89 Y #3	1194863.60	0.65	1302847.50	91.7	60 - 125		1185958.40	1200062.00	1198570.60
115 In #3	1252493.00	0.23	1366177.60	91.7	60 - 125		1249384.10	1255147.10	1252947.90
159 Tb #3	1824346.90	1.00	2052817.90	88.9	60 - 125		1813720.00	1813896.90	1845423.90
209 Bi #3	1232505.30	1.83	1405468.50	87.7	60 - 125		1207194.00	1239805.40	1250516.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\265SMPL.D\265SMPL.D#
 Date Acquired: Aug 25 2014 06:38 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-5-b
 Misc Info: 3005 1/5
 Vial Number: 3301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	2.227	2.227	ug/l	2.37	100.00		3260.35	3380.38	3373.70
11 B #3	1.257	1.257	ug/l	5.75	1800.00		3357.03	3470.41	3330.36
23 Na #1	179.2	179.2	ug/l	0.10	81000.00		884873.19	889583.81	887628.44
24 Mg #1	14780	14780	ug/l	0.83	81000.00		44526896.00	44131268.00	44738316.00
27 Al #1	31040	31040	ug/l	0.88	81000.00		110783450.00	110008740.00	111805050.00
39 K #2	15700	15700	ug/l	0.69	81000.00		4677216.00	4758940.00	4772828.50
40 Ca #1	1101	1101	ug/l	0.72	81000.00		9145163.00	9074017.00	9168970.00
47 Ti #3	2572	2572	ug/l	1.29	1620.00	Fail	3670810.80	3690330.30	3730320.80
51 V #2	140.9	140.9	ug/l	0.13	1800.00		328611.09	330097.00	331899.44
52 Cr #2	75.27	75.27	ug/l	0.58	1800.00		214157.27	212615.95	214740.05
55 Mn #3	775.9	775.9	ug/l	0.53	1800.00		13028661.00	13010108.00	13122501.00
56 Fe #1	45670	45670	ug/l	0.32	81000.00		492090500.00	491951680.00	494094020.00
59 Co #3	37.41	37.41	ug/l	0.54	1800.00		476536.28	473974.47	479201.81
60 Ni #2	37.19	37.19	ug/l	0.49	1800.00		39180.20	39084.45	39258.13
63 Cu #2	43.46	43.46	ug/l	0.13	1800.00		125111.16	125756.84	126442.15
66 Zn #3	75.63	75.63	ug/l	1.13	1800.00		141420.19	138569.14	141717.42
75 As #2	1.476	1.476	ug/l	2.46	100.00		467.01	454.01	479.67
78 Se #1	0.3927	0.3927	ug/l	12.84	100.00		120.67	103.67	98.33
88 Sr #3	5.574	5.574	ug/l	1.00	1800.00		181640.88	180425.88	182289.14
95 Mo #3	0.6045	0.6045	ug/l	5.57	1800.00		2343.54	2223.55	2146.86
107 Ag #3	0.02709	0.02709	ug/l	14.33	100.00		340.01	373.35	420.02
111 Cd #3	0.02621	0.02621	ug/l	2.40	100.00		59.49	62.85	62.86
118 Sn #3	4.878	4.878	ug/l	1.58	1800.00		32972.03	33158.87	33887.10
121 Sb #3	0.02623	0.02623	ug/l	6.82	100.00		260.01	243.34	236.68
137 Ba #3	348.1	348.1	ug/l	0.71	1800.00		1232487.80	1244171.60	1235493.30
202 Hg #3	0.008902	0.008902	ug/l	45.55	5.00		126.67	146.67	147.67
205 Tl #3	0.6433	0.6433	ug/l	3.95	20.00		15347.83	16078.73	16545.73
208 Pb #3	6.566	6.566	ug/l	0.49	1800.00		220141.22	221684.08	221436.92
232 Th #3	6.071	6.071	ug/l	1.38	#VALUE!		197344.22	196640.03	199629.89
238 U #3	1.988	1.988	ug/l	2.03	#VALUE!		66413.99	68291.81	67549.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	346479.19	0.39	442436.88	78.3	60 - 125		347843.53	345114.22	346479.78
45 Sc #1	557707.94	0.30	456299.72	122.2	60 - 125		555809.94	558872.38	558441.56
45 Sc #3	977137.25	1.14	765061.25	127.7	60 - 125	IS I	967273.31	989260.94	974877.56
74 Ge #1	131697.42	0.20	153441.28	85.8	60 - 125		131940.16	131414.47	131737.64
74 Ge #2	40444.72	0.60	47804.94	84.6	60 - 125		40238.70	40384.66	40710.80
74 Ge #3	196290.41	0.20	224564.78	87.4	60 - 125		196734.09	195975.83	196161.31
89 Y #3	1673688.80	1.43	1302847.50	128.5	60 - 125	IS I	1664640.40	1655530.40	1700895.40
115 In #3	1192717.30	1.14	1366177.60	87.3	60 - 125		1178386.30	1205467.00	1194298.50
159 Tb #3	1815422.50	0.47	2052817.90	88.4	60 - 125		1813471.40	1824697.60	1808098.50
209 Bi #3	1089355.90	2.05	1405468.50	77.5	60 - 125		1071661.40	1081970.80	1114435.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\266SMPL.D\266SMPL.D#
 Date Acquired: Aug 25 2014 06:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-c-6-b
 Misc Info: 3005 1/5
 Vial Number: 3302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.152	2.152	ug/l	2.28	100.00		3096.98	2993.64	3000.31
11 B # 3	1.315	1.315	ug/l	5.70	1800.00		3167.00	3203.67	3367.06
23 Na # 1	94.33	94.33	ug/l	0.95	81000.00		431225.16	429562.59	433616.78
24 Mg # 1	3324	3324	ug/l	0.23	81000.00		8171624.00	8271041.50	8287116.50
27 Al # 1	27210	27210	ug/l	0.42	81000.00		79971536.00	80213016.00	80145120.00
39 K # 2	1572	1572	ug/l	0.71	81000.00		433520.56	435652.59	445932.84
40 Ca # 1	1645	1645	ug/l	0.62	81000.00		11234628.00	11213543.00	11255700.00
47 Ti # 3	1407	1407	ug/l	0.58	1620.00		1732544.10	1746796.30	1756584.50
51 V # 2	118.2	118.2	ug/l	0.41	1800.00		248731.31	251231.00	251816.00
52 Cr # 2	57.82	57.82	ug/l	0.50	1800.00		148143.77	148130.27	149635.92
55 Mn # 3	749.2	749.2	ug/l	0.91	1800.00		11491932.00	11682635.00	11696328.00
56 Fe # 1	35620	35620	ug/l	0.27	81000.00		315177700.00	316932000.00	318120060.00
59 Co # 3	24.52	24.52	ug/l	0.71	1800.00		285515.63	289238.06	289581.94
60 Ni # 2	24.9	24.9	ug/l	1.26	1800.00		23853.16	23497.14	23844.29
63 Cu # 2	41.55	41.55	ug/l	0.98	1800.00		108826.20	107640.32	109833.03
66 Zn # 3	39.52	39.52	ug/l	1.84	1800.00		67129.54	67400.66	69411.04
75 As # 2	2.931	2.931	ug/l	0.46	100.00		823.35	826.02	831.35
78 Se # 1	0.4725	0.4725	ug/l	14.60	100.00		127.67	102.67	107.33
88 Sr # 3	5.574	5.574	ug/l	0.49	1800.00		196260.95	197133.47	197491.31
95 Mo # 3	0.5256	0.5256	ug/l	1.36	1800.00		1833.48	1876.82	1860.15
107 Ag # 3	0.01591	0.01591	ug/l	22.46	100.00		240.01	226.67	293.34
111 Cd # 3	0.03936	0.03936	ug/l	26.09	100.00		69.60	76.26	109.59
118 Sn # 3	3.294	3.294	ug/l	1.82	1800.00		21867.58	21300.24	21403.76
121 Sb # 3	0.08513	0.08513	ug/l	3.31	100.00		673.37	703.37	670.03
137 Ba # 3	171.1	171.1	ug/l	0.80	1800.00		576660.63	576485.44	575539.00
202 Hg # 3	0.0219	0.0219	ug/l	9.79	5.00		176.33	165.33	169.67
205 Tl # 3	0.2402	0.2402	ug/l	4.31	20.00		6081.37	5661.20	5724.56
208 Pb # 3	22.76	22.76	ug/l	0.29	1800.00		725891.88	733148.81	732654.75
232 Th # 3	4.951	4.951	ug/l	0.38	#VALUE!		157996.67	157700.89	158343.70
238 U # 3	1.305	1.305	ug/l	0.95	#VALUE!		42940.78	43070.95	44027.23

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	325426.81	0.76	442436.88	73.6	60 - 125		324307.44	323720.72	328252.25
45 Sc # 1	459695.41	0.57	456299.72	100.7	60 - 125		456668.31	461406.22	461011.63
45 Sc # 3	842863.81	0.90	765061.25	110.2	60 - 125		834454.69	849182.88	844953.81
74 Ge # 1	117931.31	0.68	153441.28	76.9	60 - 125		117005.30	118475.84	118312.80
74 Ge # 2	36583.32	0.93	47804.94	76.5	60 - 125		36251.53	36566.65	36931.78
74 Ge # 3	181009.80	0.10	224564.78	80.6	60 - 125		180836.77	181190.33	181002.31
89 Y # 3	1816743.50	0.64	1302847.50	139.4	60 - 125	IS I	1805271.00	1828591.60	1816368.30
115 In # 3	1129826.50	0.70	1366177.60	82.7	60 - 125		1125257.10	1125320.00	1138902.40
159 Tb # 3	1737796.30	0.32	2052817.90	84.7	60 - 125		1731716.90	1738856.90	1742814.90
209 Bi # 3	1066263.00	0.46	1405468.50	75.9	60 - 125		1061557.90	1065880.00	1071351.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\267SMPL.D\267SMPL.D#
 Date Acquired: Aug 25 2014 06:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104261-a-7-b
 Misc Info: 3005 1/5
 Vial Number: 3303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	3.189	3.189	ug/l	2.43	100.00		4457.29	4550.65	4427.28
11 B # 3	1.104	1.104	ug/l	6.09	1800.00		2913.62	3063.65	3036.99
23 Na # 1	99.64	99.64	ug/l	0.40	81000.00		508474.78	504889.16	509403.84
24 Mg # 1	3073	3073	ug/l	0.02	81000.00		8600202.00	8573860.00	8599607.00
27 Al # 1	29900	29900	ug/l	0.94	81000.00		98961648.00	98340624.00	100390420.00
39 K # 2	1405	1405	ug/l	0.95	81000.00		394300.56	398178.59	400070.47
40 Ca # 1	1181	1181	ug/l	0.13	81000.00		9096103.00	9093983.00	9107592.00
47 Ti # 3	1552	1552	ug/l	0.72	1620.00		2090996.00	2122085.80	2120862.50
51 V # 2	166.1	166.1	ug/l	0.64	1800.00		355267.56	355207.00	358544.72
52 Cr # 2	57.1	57.1	ug/l	0.54	1800.00		148219.63	147859.27	149590.70
55 Mn # 3	814.5	814.5	ug/l	0.88	1800.00		12518614.00	12626393.00	12591838.00
56 Fe # 1	43240	43240	ug/l	0.19	81000.00		434697180.00	432722270.00	433049470.00
59 Co # 3	24.28	24.28	ug/l	0.59	1800.00		282452.28	284114.66	285296.94
60 Ni # 2	25.49	25.49	ug/l	0.74	1800.00		24649.74	24402.80	24717.66
63 Cu # 2	44.82	44.82	ug/l	0.69	1800.00		118676.91	118183.63	119340.93
66 Zn # 3	114.1	114.1	ug/l	0.59	1800.00		192930.13	193722.63	196838.56
75 As # 2	3.59	3.59	ug/l	3.89	100.00		988.36	998.70	1081.04
78 Se # 1	0.6556	0.6556	ug/l	6.62	100.00		152.67	143.00	161.67
88 Sr # 3	4.504	4.504	ug/l	1.20	1800.00		167605.06	171051.09	171067.39
95 Mo # 3	0.5938	0.5938	ug/l	1.36	1800.00		2050.18	2050.18	2126.85
107 Ag # 3	0.01571	0.01571	ug/l	22.83	100.00		246.68	283.34	220.01
111 Cd # 3	0.1909	0.1909	ug/l	3.54	100.00		402.90	382.90	382.88
118 Sn # 3	3.957	3.957	ug/l	1.39	1800.00		25279.01	25906.46	25676.21
121 Sb # 3	0.1096	0.1096	ug/l	8.29	100.00		820.04	940.06	833.38
137 Ba # 3	194.5	194.5	ug/l	1.04	1800.00		643806.13	656959.19	655799.56
202 Hg # 3	0.03496	0.03496	ug/l	30.89	5.00		237.01	186.67	197.34
205 Tl # 3	0.246	0.246	ug/l	3.25	20.00		5651.17	6142.11	6141.38
208 Pb # 3	34.88	34.88	ug/l	1.25	1800.00		1114675.00	1121744.60	1129002.10
232 Th # 3	10.21	10.21	ug/l	2.20	#VALUE!		324785.09	322892.13	323034.03
238 U # 3	1.779	1.779	ug/l	1.64	#VALUE!		58522.02	58947.07	58649.07

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	324663.34	1.25	442436.88	73.4	60 - 125		322114.13	322534.06	329341.88
45 Sc # 1	518222.19	0.16	456299.72	113.6	60 - 125		518686.31	517254.06	518726.25
45 Sc # 3	924278.31	0.69	765061.25	120.8	60 - 125		919850.81	921402.06	931582.06
74 Ge # 1	119783.93	0.38	153441.28	78.1	60 - 125		119341.49	119749.58	120260.73
74 Ge # 2	37026.03	1.16	47804.94	77.5	60 - 125		36867.22	36699.08	37511.80
74 Ge # 3	180210.88	0.70	224564.78	80.2	60 - 125		179954.64	179099.27	181578.75
89 Y # 3	1939100.60	0.75	1302847.50	148.8	60 - 125	IS I	1934284.10	1927582.60	1955435.40
115 In # 3	1124871.50	0.84	1366177.60	82.3	60 - 125		1119007.80	1119887.80	1135718.90
159 Tb # 3	1742546.40	1.88	2052817.90	84.9	60 - 125		1708091.50	1746322.90	1773224.50
209 Bi # 3	1059909.40	2.01	1405468.50	75.4	60 - 125		1046582.90	1084500.60	1048644.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\268_QCS.D\268_QCS.D#
 Date Acquired: Aug 25 2014 07:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	18.16	0.10 69.5 - 130	
11 B	18.88 ug/l	0.98	20.00 69.5 - 130	
23 Na	41.05 ug/l	0.71	50.00 69.5 - 130	
24 Mg	54.89 ug/l	0.99	50.00 69.5 - 130	
27 Al	11.58 ug/l	0.80	10.00 69.5 - 130	
39 K	36.25 ug/l	2.35	50.00 69.5 - 130	
40 Ca	58.98 ug/l	0.70	50.00 69.5 - 130	
47 Ti	1.12 ug/l	5.65	1.00 69.5 - 130	
51 V	0.91 ug/l	2.74	1.00 69.5 - 130	
52 Cr	0.97 ug/l	1.24	1.00 69.5 - 130	
55 Mn	1.05 ug/l	0.94	1.00 69.5 - 130	
56 Fe	26.19 ug/l	0.76	20.00 69.5 - 130	Fail
59 Co	0.10 ug/l	12.96	0.10 69.5 - 130	
60 Ni	0.99 ug/l	6.96	1.00 69.5 - 130	
63 Cu	0.94 ug/l	5.94	1.00 69.5 - 130	
66 Zn	3.87 ug/l	1.53	4.00 69.5 - 130	
75 As	0.50 ug/l	0.90	0.50 69.5 - 130	
78 Se	0.46 ug/l	1.45	0.50 69.5 - 130	
88 Sr	0.19 ug/l	5.28	0.20 69.5 - 130	
95 Mo	0.90 ug/l	3.70	1.00 69.5 - 130	
107 Ag	0.20 ug/l	4.85	0.20 69.5 - 130	
111 Cd	0.09 ug/l	17.78	0.10 69.5 - 130	
118 Sn	1.03 ug/l	2.60	1.00 69.5 - 130	
121 Sb	0.94 ug/l	1.78	1.00 69.5 - 130	
137 Ba	0.98 ug/l	2.91	1.00 69.5 - 130	
202 Hg	0.13 ug/l	5.38	0.16 69.5 - 130	
205 Tl	0.18 ug/l	0.04	0.20 69.5 - 130	
208 Pb	0.27 ug/l	2.41	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	307538.09	0.54	442436.88	69.5	60 - 125		
45 Sc	315289.38	0.40	456299.72	69.1	60 - 125		
45 Sc	545728.69	0.88	765061.25	71.3	60 - 125		
74 Ge	113816.57	0.64	153441.28	74.2	60 - 125		
74 Ge	34485.53	1.24	47804.94	72.1	60 - 125		
74 Ge	170017.09	0.62	224564.78	75.7	60 - 125		
89 Y	1021812.90	1.14	1302847.50	78.4	60 - 125		
115 In	1099258.80	0.58	1366177.60	80.5	60 - 125		
159 Tb	1645258.80	1.41	2052817.90	80.1	60 - 125		
209 Bi	1056399.90	0.48	1405468.50	75.2	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\269_CCV.D\269_CCV.D#
 Date Acquired: Aug 25 2014 07:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.43 ug/l	1.07	50.00	89.5 - 110		66175.17	66208.47	67643.24
11 B	94.76 ug/l	1.66	100.00	89.5 - 110		100309.66	101213.36	104997.34
23 Na	5081 ug/l	1.05	5000.00	89.5 - 110		12411335.00	12499655.00	12650674.00
24 Mg	5022 ug/l	1.20	5000.00	89.5 - 110		8534772.00	8629274.00	8734686.00
27 Al	519 ug/l	0.41	500.00	89.5 - 110		1053110.80	1067089.90	1060319.00
39 K	4675 ug/l	0.37	5000.00	89.5 - 110		1243096.50	1245280.40	1266232.10
40 Ca	5187 ug/l	0.69	5000.00	89.5 - 110		24307776.00	24584010.00	24650426.00
47 Ti	51.14 ug/l	1.58	50.00	89.5 - 110		43370.61	43093.42	43186.81
51 V	47.25 ug/l	0.62	50.00	89.5 - 110		97305.78	97666.41	98508.68
52 Cr	47.15 ug/l	1.04	50.00	89.5 - 110		116915.88	118628.88	119391.45
55 Mn	495 ug/l	0.05	500.00	89.5 - 110		7489169.00	7602633.00	7604883.00
56 Fe	5524 ug/l	0.60	5000.00	89.5 - 110	Fail	34000528.00	33967304.00	34199200.00
59 Co	47.76 ug/l	0.70	50.00	89.5 - 110		550932.69	552032.25	555273.00
60 Ni	48.34 ug/l	0.53	50.00	89.5 - 110		44964.25	44626.83	45167.06
63 Cu	47.42 ug/l	0.78	50.00	89.5 - 110		119917.30	121070.13	122246.48
66 Zn	48.45 ug/l	1.07	50.00	89.5 - 110		81892.56	81463.41	82578.56
75 As	49.06 ug/l	1.08	50.00	89.5 - 110		13188.43	13372.23	13406.92
78 Se	50.75 ug/l	1.30	50.00	89.5 - 110		10148.50	10091.80	10224.54
88 Sr	48.79 ug/l	0.32	50.00	89.5 - 110		1011437.90	1012674.10	1021493.80
95 Mo	48.5 ug/l	1.07	50.00	89.5 - 110		160537.61	159860.75	161355.27
107 Ag	47.45 ug/l	0.20	50.00	89.5 - 110		434615.66	439770.94	443071.13
111 Cd	48.71 ug/l	0.29	50.00	89.5 - 110		95934.13	97921.53	98326.88
118 Sn	49.36 ug/l	0.15	50.00	89.5 - 110		307179.75	311471.00	313407.44
121 Sb	48.7 ug/l	0.31	50.00	89.5 - 110		363180.03	366387.06	371027.69
137 Ba	49.1 ug/l	0.41	50.00	89.5 - 110		162097.39	164097.69	164541.41
202 Hg	2.549 ug/l	0.75	2.50	89.5 - 110		6861.49	7052.58	7034.56
205 Tl	9.656 ug/l	1.04	10.00	89.5 - 110		218835.75	219791.89	223399.06
208 Pb	48.35 ug/l	0.93	50.00	89.5 - 110		1502893.00	1499433.10	1512105.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	311848.78	1.32	442436.88	70.5	60 - 125		307176.88	313470.06	314899.38
45 Sc	318649.75	0.31	456299.72	69.8	60 - 125		318032.63	319799.72	318116.88
45 Sc	573329.75	1.42	765061.25	74.9	60 - 125		566731.88	570853.00	582404.31
74 Ge	115207.13	1.01	153441.28	75.1	60 - 125		113909.40	116154.40	115557.56
74 Ge	35692.27	1.04	47804.94	74.7	60 - 125		35586.88	35385.33	36104.62
74 Ge	178319.81	0.93	224564.78	79.4	60 - 125		176411.06	179235.56	179312.80
89 Y	1070958.80	0.67	1302847.50	82.2	60 - 125		1063464.10	1071632.40	1077779.60
115 In	1117585.80	1.16	1366177.60	81.8	60 - 125		1103562.80	1120027.10	1129167.50
159 Tb	1686909.40	0.81	2052817.90	82.2	60 - 125		1671722.30	1698331.10	1690674.90
209 Bi	1068423.00	1.01	1405468.50	76.0	60 - 125		1057707.50	1068284.40	1079277.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\270_CCB.D\270_CCB.D#
 Date Acquired: Aug 25 2014 07:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0009944	0.0009944	ug/l	136.97	#VALUE!		3.33	0.00	3.33
11 B #3	1.512	1.512	ug/l	14.22	#VALUE!		3530.41	3640.43	3237.02
23 Na #1	-11.65	-11.65	ug/l	2.09	#VALUE!		41241.38	42266.86	41204.51
24 Mg #1	0.3234	0.3234	ug/l	12.34	#VALUE!		1480.09	1366.76	1360.08
27 Al #1	0.6869	0.6869	ug/l	14.06	#VALUE!		2863.63	2793.61	2490.24
39 K #2	-9.84	-9.84	ug/l	5.93	#VALUE!		7778.50	7965.24	7708.42
40 Ca #1	0.638	0.638	ug/l	11.83	#VALUE!		22854.29	22644.01	22283.68
47 Ti #3	-0.0004506	-0.0004506	ug/l	3484.20	#VALUE!		83.34	73.34	100.00
51 V #2	-0.0211	-0.0211	ug/l	9.64	#VALUE!		142.22	138.89	148.89
52 Cr #2	-0.01712	-0.01712	ug/l	25.08	#VALUE!		231.11	226.67	212.23
55 Mn #3	0.05017	0.05017	ug/l	0.61	#VALUE!		1986.84	2013.50	2013.50
56 Fe #1	1.954	1.954	ug/l	7.78	#VALUE!		17078.31	15830.55	15263.30
59 Co #3	0.0007016	0.0007016	ug/l	236.03	#VALUE!		73.34	43.33	80.00
60 Ni #2	-0.008239	-0.008239	ug/l	10.46	#VALUE!		33.33	33.33	32.22
63 Cu #2	-0.02165	-0.02165	ug/l	48.22	#VALUE!		308.89	314.45	266.67
66 Zn #3	-0.06416	-0.06416	ug/l	27.63	#VALUE!		443.35	393.35	403.35
75 As #2	0.002018	0.002018	ug/l	460.56	#VALUE!		11.33	15.67	11.00
78 Se #1	-0.03627	-0.03627	ug/l	21.57	#VALUE!		8.00	7.67	10.67
88 Sr #3	0.001326	0.001326	ug/l	101.28	#VALUE!		140.00	150.01	196.67
95 Mo #3	0.02	0.02	ug/l	56.30	#VALUE!		213.34	153.34	143.34
107 Ag #3	-0.001576	-0.001576	ug/l	164.34	#VALUE!		120.00	73.34	83.34
111 Cd #3	0.002614	0.002614	ug/l	198.13	#VALUE!		23.29	3.30	6.64
118 Sn #3	0.09676	0.09676	ug/l	20.12	#VALUE!		1393.43	1186.74	1180.08
121 Sb #3	0.02118	0.02118	ug/l	8.89	#VALUE!		196.67	216.68	190.01
137 Ba #3	0.005327	0.005327	ug/l	105.18	#VALUE!		30.00	66.67	60.00
202 Hg #3	0.007091	0.007091	ug/l	38.44	#VALUE!		121.33	124.67	136.33
205 Tl #3	-0.003566	-0.003566	ug/l	10.66	#VALUE!		76.67	93.34	93.34
208 Pb #3	0.0006903	0.0006903	ug/l	5604.80	#VALUE!		2633.67	533.35	570.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	326145.25	1.00	442436.88	73.7	60 - 125		323543.34	325066.25	329826.19
45 Sc #1	336792.91	0.39	456299.72	73.8	60 - 125		335477.06	336773.28	338128.34
45 Sc #3	585903.50	0.39	765061.25	76.6	60 - 125		583444.19	588035.13	586231.25
74 Ge #1	120896.77	0.36	153441.28	78.8	60 - 125		121326.55	120448.55	120915.20
74 Ge #2	37220.86	0.61	47804.94	77.9	60 - 125		37034.20	37154.40	37473.96
74 Ge #3	183663.56	0.99	224564.78	81.8	60 - 125		181571.55	184887.78	184531.39
89 Y #3	1090942.10	1.18	1302847.50	83.7	60 - 125		1077249.80	1092827.50	1102749.10
115 In #3	1163629.60	0.71	1366177.60	85.2	60 - 125		1157795.30	1159942.90	1173151.00
159 Tb #3	1712743.90	1.06	2052817.90	83.4	60 - 125		1693115.90	1728751.80	1716363.90
209 Bi #3	1103650.00	0.65	1405468.50	78.5	60 - 125		1095331.50	1107266.50	1108352.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\271SMPL.D\271SMPL.D#
 Date Acquired: Aug 25 2014 07:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-1-d
 Misc Info: 3005 1/5
 Vial Number: 3512
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.007199	0.007199	ug/l	18.64	100.00		10.00	10.00	13.33
11 B # 3	3.598	3.598	ug/l	1.17	1800.00		5851.03	5824.35	5891.05
23 Na # 1	743.1	743.1	ug/l	1.08	81000.00		2038076.60	2043437.60	2023874.40
24 Mg # 1	78.97	78.97	ug/l	0.95	81000.00		147694.81	147236.91	146283.31
27 Al # 1	52.01	52.01	ug/l	0.70	81000.00		115692.98	115707.88	115380.87
39 K # 2	121.9	121.9	ug/l	0.75	81000.00		43898.23	44396.23	44276.08
40 Ca # 1	185.2	185.2	ug/l	0.68	81000.00		954785.50	960877.06	970056.13
47 Ti # 3	0.2195	0.2195	ug/l	45.79	1620.00		253.35	203.34	376.77
51 V # 2	0.1464	0.1464	ug/l	4.00	1800.00		511.12	487.79	510.01
52 Cr # 2	0.07379	0.07379	ug/l	10.27	1800.00		464.45	436.68	477.79
55 Mn # 3	1.285	1.285	ug/l	0.75	1800.00		20995.65	21239.26	21636.44
56 Fe # 1	121.5	121.5	ug/l	0.57	81000.00		807884.38	811024.06	812055.63
59 Co # 3	0.04375	0.04375	ug/l	8.87	1800.00		600.03	596.70	526.69
60 Ni # 2	0.2346	0.2346	ug/l	6.33	1800.00		268.89	280.00	253.34
63 Cu # 2	0.1256	0.1256	ug/l	1.61	1800.00		677.80	687.80	692.24
66 Zn # 3	0.3338	0.3338	ug/l	11.22	1800.00		1013.39	1110.07	1163.40
75 As # 2	0.06077	0.06077	ug/l	6.20	100.00		28.00	29.33	30.33
78 Se # 1	-0.04303	-0.04303	ug/l	14.37	100.00		6.00	8.00	8.33
88 Sr # 3	1.563	1.563	ug/l	1.17	1800.00		33378.23	33011.00	33922.86
95 Mo # 3	-0.002126	-0.002126	ug/l	173.24	1800.00		100.00	80.00	100.00
107 Ag # 3	-0.0008365	-0.0008365	ug/l	178.12	100.00		110.00	103.34	83.34
111 Cd # 3	0.001543	0.001543	ug/l	262.35	100.00		-0.02	9.98	16.65
118 Sn # 3	0.1365	0.1365	ug/l	2.04	1800.00		1503.44	1530.12	1486.79
121 Sb # 3	0.009897	0.009897	ug/l	25.36	100.00		90.00	116.67	130.00
137 Ba # 3	2.679	2.679	ug/l	1.70	1800.00		9289.49	9239.46	9312.85
202 Hg # 3	-0.01177	-0.01177	ug/l	33.52	5.00		87.67	66.00	74.34
205 Tl # 3	-0.00286	-0.00286	ug/l	27.33	20.00		83.34	113.34	116.67
208 Pb # 3	-0.01573	-0.01573	ug/l	62.65	1800.00		540.02	570.02	1106.85
232 Th # 3	0.04013	0.04013	ug/l	7.83	#VALUE!		1736.83	1580.13	1533.46
238 U # 3	0.003735	0.003735	ug/l	21.15	#VALUE!		150.01	136.67	190.01

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	330239.38	0.43	442436.88	74.6	60 - 125		328710.31	331544.91	330462.91
45 Sc # 1	343305.50	0.55	456299.72	75.2	60 - 125		343384.47	341367.06	345165.00
45 Sc # 3	590867.19	0.83	765061.25	77.2	60 - 125		585791.44	591225.44	595584.63
74 Ge # 1	122398.70	0.86	153441.28	79.8	60 - 125		123536.02	121455.21	122204.86
74 Ge # 2	37128.11	0.42	47804.94	77.7	60 - 125		37020.90	37056.50	37306.95
74 Ge # 3	182387.41	1.09	224564.78	81.2	60 - 125		180133.56	183089.97	183938.67
89 Y # 3	1096586.60	0.38	1302847.50	84.2	60 - 125		1099831.50	1091929.90	1097998.60
115 In # 3	1158082.80	1.39	1366177.60	84.8	60 - 125		1142426.60	1174587.90	1157233.90
159 Tb # 3	1718396.90	0.80	2052817.90	83.7	60 - 125		1715927.60	1706116.40	1733146.40
209 Bi # 3	1147598.50	0.37	1405468.50	81.7	60 - 125		1145744.60	1152442.80	1144608.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\272SMPL.D\272SMPL.D#
 Date Acquired: Aug 25 2014 07:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-2-b
 Misc Info: 3005 1/5
 Vial Number: 4101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.006261	0.006261	ug/l	35.86	100.00		10.00	6.67	13.33
11 B #3	10.95	10.95	ug/l	1.28	1800.00		14218.83	14619.18	14442.33
23 Na #1	2623	2623	ug/l	0.33	81000.00		7093626.50	7106553.00	7115617.50
24 Mg #1	922.9	922.9	ug/l	0.48	81000.00		1737638.40	1732662.50	1737915.30
27 Al #1	97.21	97.21	ug/l	0.15	81000.00		218055.39	218792.83	217704.61
39 K #2	583.4	583.4	ug/l	0.45	81000.00		175718.91	177970.17	178187.52
40 Ca #1	3033	3033	ug/l	0.18	81000.00		15656716.00	15712953.00	15687470.00
47 Ti #3	0.3055	0.3055	ug/l	38.56	1620.00		343.35	266.68	480.13
51 V #2	0.6408	0.6408	ug/l	0.88	1800.00		1615.64	1603.42	1632.31
52 Cr #2	0.2141	0.2141	ug/l	8.27	1800.00		882.25	797.80	875.58
55 Mn #3	1.201	1.201	ug/l	0.50	1800.00		20595.24	20782.02	20518.50
56 Fe #1	148.1	148.1	ug/l	1.00	81000.00		1003598.30	994465.50	1008301.80
59 Co #3	0.04312	0.04312	ug/l	6.13	1800.00		616.70	583.36	556.69
60 Ni #2	0.5332	0.5332	ug/l	12.25	1800.00		510.01	642.24	570.01
63 Cu #2	0.03422	0.03422	ug/l	9.63	1800.00		463.34	462.23	450.01
66 Zn #3	0.3858	0.3858	ug/l	8.41	1800.00		1236.75	1276.74	1156.74
75 As #2	0.242	0.242	ug/l	4.89	100.00		81.00	87.00	81.00
78 Se #1	0.007801	0.007801	ug/l	140.37	100.00		18.00	21.33	16.67
88 Sr #3	5.601	5.601	ug/l	0.39	1800.00		122317.74	122284.36	123777.76
95 Mo #3	0.02257	0.02257	ug/l	17.19	1800.00		166.67	196.67	180.01
107 Ag #3	-0.005112	-0.005112	ug/l	15.29	100.00		63.34	63.34	50.00
111 Cd #3	0.001496	0.001496	ug/l	162.90	100.00		9.96	3.29	13.29
118 Sn #3	0.09668	0.09668	ug/l	2.01	1800.00		1256.76	1293.42	1253.42
121 Sb #3	0.02269	0.02269	ug/l	13.11	100.00		193.34	243.34	210.01
137 Ba #3	5.109	5.109	ug/l	0.93	1800.00		17776.36	17989.98	18106.77
202 Hg #3	-0.01602	-0.01602	ug/l	7.01	5.00		61.67	67.33	68.00
205 Tl #3	-0.003092	-0.003092	ug/l	11.01	20.00		93.34	100.00	110.00
208 Pb #3	0.01048	0.01048	ug/l	289.69	1800.00		2715.36	976.71	1100.05
232 Th #3	0.04254	0.04254	ug/l	7.12	#VALUE!		1766.83	1600.13	1783.50
238 U #3	0.02056	0.02056	ug/l	4.15	#VALUE!		793.38	760.05	750.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	337763.97	0.87	442436.88	76.3	60 - 125		334756.09	337939.16	340596.63
45 Sc #1	348480.78	0.33	456299.72	76.4	60 - 125		347671.44	349776.78	347994.16
45 Sc #3	608842.50	1.02	765061.25	79.6	60 - 125		602235.69	609669.06	614622.69
74 Ge #1	125236.31	0.22	153441.28	81.6	60 - 125		124934.05	125485.39	125289.51
74 Ge #2	38342.05	0.40	47804.94	80.2	60 - 125		38182.13	38356.86	38487.16
74 Ge #3	188325.45	0.73	224564.78	83.9	60 - 125		187059.02	189797.73	188119.58
89 Y #3	1127114.30	0.72	1302847.50	86.5	60 - 125		1127552.60	1118786.50	1135003.60
115 In #3	1177096.80	0.83	1366177.60	86.2	60 - 125		1168820.40	1187930.30	1174539.40
159 Tb #3	1754362.60	0.57	2052817.90	85.5	60 - 125		1743386.90	1763065.00	1756636.30
209 Bi #3	1159412.50	1.05	1405468.50	82.5	60 - 125		1146148.90	1162098.30	1169990.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\273SMPL.D\273SMPL.D#
 Date Acquired: Aug 25 2014 07:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-3-b
 Misc Info: 3005 1/5
 Vial Number: 4102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil. Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00159	0.00159	ug/l	236.23	100.00		0.00	10.00	0.00
11 B #3	14.44	14.44	ug/l	1.57	1800.00		19463.41	19156.55	19613.62
23 Na #1	4628	4628	ug/l	21.39	81000.00		12748501.00	12567491.00	12861146.00
24 Mg #1	1582	1582	ug/l	21.91	81000.00		3016463.30	2989905.80	3090387.30
27 Al #1	177.2	177.2	ug/l	21.67	81000.00		406256.13	396941.25	409553.94
39 K #2	3038	3038	ug/l	1.83	81000.00		906179.56	935866.13	934968.31
40 Ca #1	5979	5979	ug/l	22.26	81000.00		31527866.00	30764046.00	32120390.00
47 Ti #3	0.4091	0.4091	ug/l	9.63	1620.00		450.04	463.35	526.69
51 V #2	6.102	6.102	ug/l	1.66	1800.00		14691.40	14227.70	14562.42
52 Cr #2	0.3473	0.3473	ug/l	3.68	1800.00		1317.84	1250.05	1262.28
55 Mn #3	0.4337	0.4337	ug/l	3.60	1800.00		8442.16	8642.26	9112.51
56 Fe #1	119.7	119.7	ug/l	22.11	81000.00		829053.31	807568.50	840048.94
59 Co #3	0.02353	0.02353	ug/l	7.65	1800.00		350.01	353.35	396.68
60 Ni #2	0.5604	0.5604	ug/l	2.71	1800.00		623.35	652.24	626.68
63 Cu #2	2.105	2.105	ug/l	0.69	1800.00		6408.94	6481.18	6486.75
66 Zn #3	2.538	2.538	ug/l	4.44	1800.00		5407.61	5477.61	5140.86
75 As #2	0.186	0.186	ug/l	6.83	100.00		66.00	71.33	73.67
78 Se #1	0.5907	0.5907	ug/l	15.50	100.00		146.33	149.67	152.33
88 Sr #3	3.742	3.742	ug/l	2.16	1800.00		84066.88	87610.16	86816.29
95 Mo #3	0.6861	0.6861	ug/l	3.31	1800.00		2576.93	2663.61	2536.92
107 Ag #3	-0.004789	-0.004789	ug/l	21.72	100.00		73.34	66.67	53.33
111 Cd #3	0.04014	0.04014	ug/l	33.78	100.00		59.44	109.42	112.78
118 Sn #3	0.08305	0.08305	ug/l	7.37	1800.00		1196.74	1193.41	1283.42
121 Sb #3	0.04994	0.04994	ug/l	9.53	100.00		410.02	443.35	493.36
137 Ba #3	1.008	1.008	ug/l	1.41	1800.00		3663.84	3667.18	3800.55
202 Hg #3	-0.01393	-0.01393	ug/l	18.38	5.00		80.00	73.00	67.33
205 Tl #3	-0.002349	-0.002349	ug/l	41.81	20.00		100.00	116.67	150.01
208 Pb #3	0.07218	0.07218	ug/l	6.00	1800.00		3800.30	3630.29	3653.62
232 Th #3	0.03257	0.03257	ug/l	6.23	#VALUE!		1470.12	1343.44	1440.12
238 U #3	0.02276	0.02276	ug/l	12.60	#VALUE!		746.71	933.39	950.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	355557.06	1.27	442436.88	80.4	60 - 125		351151.88	355364.84	360154.41
45 Sc #1	365574.28	19.74	456299.72	80.1	60 - 125		365838.81	437615.09	293268.97
45 Sc #3	640920.31	0.96	765061.25	83.8	60 - 125		634097.88	642652.88	646010.13
74 Ge #1	130253.87	12.11	153441.28	84.9	60 - 125		131307.23	145474.70	113979.66
74 Ge #2	40445.48	0.05	47804.94	84.6	60 - 125		40436.93	40432.48	40467.02
74 Ge #3	199403.94	1.12	224564.78	88.8	60 - 125		196851.00	200301.58	201059.22
89 Y #3	1183183.10	0.77	1302847.50	90.8	60 - 125		1178997.80	1176878.10	1193673.60
115 In #3	1223774.60	0.74	1366177.60	89.6	60 - 125		1221007.80	1216439.00	1233877.00
159 Tb #3	1802798.50	1.42	2052817.90	87.8	60 - 125		1773836.90	1812628.30	1821930.40
209 Bi #3	1198748.60	0.73	1405468.50	85.3	60 - 125		1188807.00	1202462.10	1204976.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\274SMPL.D\274SMPL.D#
 Date Acquired: Aug 25 2014 07:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-4-b
 Misc Info: 3005 1/5
 Vial Number: 4103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00213	0.00213	ug/l	144.74	100.00		3.33	10.00	0.00
11 B #3	7.061	7.061	ug/l	2.25	1800.00		10796.56	11323.54	11316.89
23 Na #1	1929	1929	ug/l	0.79	81000.00		5799198.50	5828966.50	5801310.50
24 Mg #1	1671	1671	ug/l	1.16	81000.00		3456731.30	3492411.50	3491576.30
27 Al #1	28.67	28.67	ug/l	0.82	81000.00		72496.38	71624.94	72733.92
39 K #2	1138	1138	ug/l	1.46	81000.00		360781.66	362603.13	367602.03
40 Ca #1	7529	7529	ug/l	1.18	81000.00		42842948.00	43412876.00	43049972.00
47 Ti #3	0.1395	0.1395	ug/l	107.96	1620.00		110.00	196.67	400.43
51 V #2	0.1946	0.1946	ug/l	6.98	1800.00		710.02	686.69	640.02
52 Cr #2	0.1183	0.1183	ug/l	11.85	1800.00		673.35	597.79	661.13
55 Mn #3	0.5821	0.5821	ug/l	0.27	1800.00		11303.76	11650.63	11753.99
56 Fe #1	28.84	28.84	ug/l	0.28	81000.00		221359.31	218021.42	218250.75
59 Co #3	0.02201	0.02201	ug/l	11.19	1800.00		313.35	386.69	370.01
60 Ni #2	0.2004	0.2004	ug/l	10.30	1800.00		244.45	256.67	285.56
63 Cu #2	0.2405	0.2405	ug/l	3.97	1800.00		1137.82	1078.93	1107.82
66 Zn #3	1.912	1.912	ug/l	4.61	1800.00		4370.64	4227.27	4230.61
75 As #2	0.1173	0.1173	ug/l	14.50	100.00		50.00	45.67	56.00
78 Se #1	0.04091	0.04091	ug/l	10.62	100.00		27.33	28.00	29.33
88 Sr #3	3.434	3.434	ug/l	1.51	1800.00		79664.00	81886.43	81267.66
95 Mo #3	0.5354	0.5354	ug/l	3.75	1800.00		2163.53	2110.18	2060.19
107 Ag #3	-0.00478	-0.00478	ug/l	5.32	100.00		63.34	66.67	70.00
111 Cd #3	-0.0004689	-0.0004689	ug/l	359.99	100.00		2.86	9.54	2.88
118 Sn #3	0.09234	0.09234	ug/l	9.52	1800.00		1363.43	1353.43	1270.08
121 Sb #3	0.01984	0.01984	ug/l	31.56	100.00		230.01	243.34	146.67
137 Ba #3	1.107	1.107	ug/l	4.24	1800.00		4077.27	4093.95	4437.38
202 Hg #3	-0.01717	-0.01717	ug/l	18.87	5.00		60.67	59.67	77.34
205 Tl #3	-0.00522	-0.00522	ug/l	11.63	20.00		56.67	36.67	66.67
208 Pb #3	-0.0107	-0.0107	ug/l	11.07	1800.00		1000.05	930.04	966.71
232 Th #3	0.01968	0.01968	ug/l	4.35	#VALUE!		983.40	956.73	1010.07
238 U #3	0.00455	0.00455	ug/l	16.00	#VALUE!		183.34	236.68	186.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	377714.59	1.02	442436.88	85.4	60 - 125		373652.78	381277.97	378213.06
45 Sc #1	386102.88	0.58	456299.72	84.6	60 - 125		388666.66	384705.03	384937.00
45 Sc #3	668566.44	0.39	765061.25	87.4	60 - 125		665761.75	669108.94	670828.63
74 Ge #1	136699.23	0.10	153441.28	89.1	60 - 125		136844.92	136564.80	136687.95
74 Ge #2	41550.89	0.44	47804.94	86.9	60 - 125		41705.37	41600.59	41346.72
74 Ge #3	204782.84	2.09	224564.78	91.2	60 - 125		200119.23	205707.13	208522.16
89 Y #3	1210915.90	1.50	1302847.50	92.9	60 - 125		1196439.10	1204932.50	1231376.00
115 In #3	1262880.60	1.15	1366177.60	92.4	60 - 125		1246114.50	1269888.40	1272639.00
159 Tb #3	1850307.30	0.72	2052817.90	90.1	60 - 125		1835308.30	1854663.90	1860949.50
209 Bi #3	1232995.00	1.34	1405468.50	87.7	60 - 125		1214266.30	1245292.10	1239426.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\275SMPL.D\275SMPL.D#
 Date Acquired: Aug 25 2014 07:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-5-b
 Misc Info: 3005 1/5
 Vial Number: 4104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001424	0.001424	ug/l	243.54	100.00		0.00	10.00	0.00
11 B #3	11.3	11.3	ug/l	2.79	1800.00		16880.92	16911.11	17334.73
23 Na #1	7570	7570	ug/l	0.62	81000.00		23640108.00	23368060.00	23486620.00
24 Mg #1	1365	1365	ug/l	0.56	81000.00		2980079.00	2953067.50	2955079.00
27 Al #1	55.57	55.57	ug/l	0.75	81000.00		144468.89	143465.06	145700.84
39 K #2	881.5	881.5	ug/l	0.91	81000.00		283433.50	287898.81	291806.03
40 Ca #1	9187	9187	ug/l	0.12	81000.00		54814020.00	54735276.00	54755300.00
47 Ti #3	0.5608	0.5608	ug/l	40.51	1620.00		420.02	733.50	857.52
51 V #2	9.698	9.698	ug/l	0.47	1800.00		23646.11	23643.87	24190.12
52 Cr #2	0.3223	0.3223	ug/l	4.37	1800.00		1294.50	1231.16	1234.50
55 Mn #3	0.3656	0.3656	ug/l	4.23	1800.00		7625.09	7615.07	8086.29
56 Fe #1	15.73	15.73	ug/l	0.92	81000.00		125862.80	127567.77	125481.59
59 Co #3	0.02519	0.02519	ug/l	15.85	1800.00		370.02	366.68	460.02
60 Ni #2	0.7846	0.7846	ug/l	2.96	1800.00		882.25	928.92	902.25
63 Cu #2	0.1653	0.1653	ug/l	8.06	1800.00		924.48	903.36	860.03
66 Zn #3	0.2779	0.2779	ug/l	19.02	1800.00		1230.08	1033.39	1103.40
75 As #2	0.1366	0.1366	ug/l	4.90	100.00		57.67	54.67	59.67
78 Se #1	0.5408	0.5408	ug/l	12.64	100.00		134.33	147.00	167.33
88 Sr #3	8.287	8.287	ug/l	0.66	1800.00		192274.63	197521.41	196903.02
95 Mo #3	1.099	1.099	ug/l	4.61	1800.00		4130.60	4440.70	4157.26
107 Ag #3	-0.005241	-0.005241	ug/l	18.89	100.00		66.67	50.00	70.00
111 Cd #3	0.004213	0.004213	ug/l	61.24	100.00		22.43	12.36	12.42
118 Sn #3	0.08745	0.08745	ug/l	5.17	1800.00		1260.08	1310.10	1336.77
121 Sb #3	0.08314	0.08314	ug/l	3.69	100.00		776.71	726.71	746.71
137 Ba #3	0.4622	0.4622	ug/l	2.65	1800.00		1726.81	1796.82	1836.83
202 Hg #3	-0.01946	-0.01946	ug/l	5.95	5.00		62.67	56.67	59.00
205 Tl #3	-0.005317	-0.005317	ug/l	16.92	20.00		76.67	40.00	36.67
208 Pb #3	0.004632	0.004632	ug/l	12.50	1800.00		1463.41	1520.08	1513.42
232 Th #3	0.02862	0.02862	ug/l	8.78	#VALUE!		1223.42	1283.43	1410.11
238 U #3	0.0143	0.0143	ug/l	8.23	#VALUE!		626.70	536.70	556.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	388010.84	1.32	442436.88	87.7	60 - 125		393929.38	384842.03	385261.16
45 Sc #1	402088.28	0.06	456299.72	88.1	60 - 125		401854.44	402071.63	402338.78
45 Sc #3	691733.38	1.75	769061.25	90.4	60 - 125		703616.13	679385.19	692198.75
74 Ge #1	139323.44	0.10	153441.28	90.8	60 - 125		139274.25	139213.56	139482.53
74 Ge #2	42052.43	0.85	47804.94	88.0	60 - 125		41850.09	41840.16	42467.06
74 Ge #3	204916.83	0.22	224564.78	91.3	60 - 125		204486.81	205402.95	204860.70
89 Y #3	1213863.60	1.89	1302847.50	93.2	60 - 125		1189559.60	1235262.80	1216768.50
115 In #3	1270222.10	0.78	1366177.60	93.0	60 - 125		1265030.50	1263930.60	1281705.00
159 Tb #3	1862603.50	0.77	2052817.90	90.7	60 - 125		1846193.50	1869782.50	1871835.00
209 Bi #3	1226107.30	0.75	1405468.50	87.2	60 - 125		1230149.00	1215567.90	1232605.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\276SMPL.D\276SMPL.D#
 Date Acquired: Aug 25 2014 07:59 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-6-b
 Misc Info: 3005 1/5
 Vial Number: 4105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.03379	0.03379	ug/l	26.76	100.00		43.34	53.34	73.34
11 B #3	3.211	3.211	ug/l	1.25	1800.00		6164.46	6237.79	6347.86
23 Na #1	674.1	674.1	ug/l	0.44	81000.00		2151470.50	2147460.50	2150975.00
24 Mg #1	185.5	185.5	ug/l	0.42	81000.00		399669.88	399825.66	398874.25
27 Al #1	10.68	10.68	ug/l	3.36	81000.00		28912.79	29475.62	27729.11
39 K #2	387.5	387.5	ug/l	0.74	81000.00		131590.80	131886.80	132269.78
40 Ca #1	208.6	208.6	ug/l	1.66	81000.00		1263727.90	1233496.00	1265923.80
47 Ti #3	0.1926	0.1926	ug/l	20.22	1620.00		333.41	280.01	260.01
51 V #2	0.1528	0.1528	ug/l	11.26	1800.00		551.12	622.24	565.57
52 Cr #2	0.06566	0.06566	ug/l	19.34	1800.00		456.68	525.57	493.34
55 Mn #3	0.765	0.765	ug/l	1.08	1800.00		14572.72	14772.88	14999.79
56 Fe #1	74.08	74.08	ug/l	0.13	81000.00		571656.25	575742.81	576667.94
59 Co #3	0.013	0.013	ug/l	6.09	1800.00		240.01	223.34	246.67
60 Ni #2	0.3565	0.3565	ug/l	1.77	1800.00		436.68	433.34	426.68
63 Cu #2	0.06275	0.06275	ug/l	12.40	1800.00		562.24	602.24	584.46
66 Zn #3	0.2311	0.2311	ug/l	14.84	1800.00		1103.41	1000.06	990.06
75 As #2	0.04072	0.04072	ug/l	33.30	100.00		22.00	26.67	30.67
78 Se #1	-0.04351	-0.04351	ug/l	5.59	100.00		8.67	8.67	7.67
88 Sr #3	2.142	2.142	ug/l	1.08	1800.00		50652.12	51033.27	50822.78
95 Mo #3	-0.01931	-0.01931	ug/l	5.13	1800.00		33.33	40.00	40.00
107 Ag #3	-0.002043	-0.002043	ug/l	87.47	100.00		116.67	86.67	83.34
111 Cd #3	0.002182	0.002182	ug/l	140.24	100.00		13.33	3.32	16.66
118 Sn #3	0.08005	0.08005	ug/l	16.60	1800.00		1133.40	1290.09	1316.76
121 Sb #3	0.001517	0.001517	ug/l	38.93	100.00		50.00	46.67	56.67
137 Ba #3	9.383	9.383	ug/l	0.63	1800.00		35143.88	35801.92	35494.38
202 Hg #3	-0.02184	-0.02184	ug/l	4.75	5.00		54.67	51.00	50.00
205 Tl #3	-0.005968	-0.005968	ug/l	4.90	20.00		40.00	36.67	26.67
208 Pb #3	0.009565	0.009565	ug/l	36.57	1800.00		1670.10	1520.07	1770.10
232 Th #3	0.01202	0.01202	ug/l	14.73	#VALUE!		790.05	656.70	706.70
238 U #3	0.008167	0.008167	ug/l	2.57	#VALUE!		350.02	336.68	360.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	380732.84	0.65	442436.88	86.1	60 - 125		378253.44	380744.00	383201.06
45 Sc #1	398282.22	0.35	456299.72	87.3	60 - 125		396657.75	399085.06	399103.81
45 Sc #3	677165.69	0.44	765061.25	88.5	60 - 125		675640.69	675255.50	680600.81
74 Ge #1	138812.88	0.40	153441.28	90.5	60 - 125		138199.61	139276.25	138962.78
74 Ge #2	41665.20	0.70	47804.94	87.2	60 - 125		41767.66	41336.70	41891.25
74 Ge #3	204792.28	0.77	224564.78	91.2	60 - 125		204221.05	203571.97	206583.83
89 Y #3	1217821.80	0.70	1302847.50	93.5	60 - 125		1225877.40	1208895.00	1218692.80
115 In #3	1267358.40	0.37	1366177.60	92.8	60 - 125		1261949.80	1269962.80	1270162.90
159 Tb #3	1845773.50	1.19	2052817.90	89.9	60 - 125		1823719.10	1845838.30	1867763.10
209 Bi #3	1261779.00	1.06	1405468.50	89.8	60 - 125		1258574.00	1250305.30	1276457.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\277SMPL.D\277SMPL.D#
 Date Acquired: Aug 25 2014 08:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-7-b
 Misc Info: 3005 1/5
 Vial Number: 4106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.007546	0.007546	ug/l	26.86	100.00		13.33	10.00	16.67
11 B # 3	2.926	2.926	ug/l	0.38	1800.00		5804.34	5894.39	5887.70
23 Na # 1	705	705	ug/l	4.58	81000.00		2189206.80	2191564.00	2171164.00
24 Mg # 1	156	156	ug/l	4.39	81000.00		327668.91	328584.16	324907.31
27 Al # 1	38.13	38.13	ug/l	6.23	81000.00		98152.86	94932.45	94874.52
39 K # 2	314.3	314.3	ug/l	0.98	81000.00		109890.88	109345.23	109415.18
40 Ca # 1	167.3	167.3	ug/l	3.81	81000.00		978809.25	981952.50	989245.00
47 Ti # 3	0.9038	0.9038	ug/l	14.32	1620.00		930.06	1146.90	906.73
51 V # 2	0.2414	0.2414	ug/l	3.55	1800.00		782.25	802.25	803.36
52 Cr # 2	0.1217	0.1217	ug/l	9.79	1800.00		666.69	620.02	686.69
55 Mn # 3	0.7378	0.7378	ug/l	1.92	1800.00		14339.19	14078.98	14439.25
56 Fe # 1	81.4	81.4	ug/l	4.87	81000.00		618846.19	610249.13	612772.75
59 Co # 3	0.0142	0.0142	ug/l	1.78	1800.00		253.34	250.01	253.34
60 Ni # 2	0.2261	0.2261	ug/l	16.79	1800.00		247.78	320.01	306.67
63 Cu # 2	-0.02035	-0.02035	ug/l	9.95	1800.00		334.45	340.01	336.67
66 Zn # 3	0.1919	0.1919	ug/l	3.16	1800.00		956.72	946.72	960.06
75 As # 2	0.04924	0.04924	ug/l	22.16	100.00		28.33	33.00	26.33
78 Se # 1	-0.04257	-0.04257	ug/l	3.59	100.00		8.00	8.33	9.00
88 Sr # 3	1.872	1.872	ug/l	1.18	1800.00		43867.50	44803.42	44789.88
95 Mo # 3	-0.01664	-0.01664	ug/l	25.52	1800.00		53.33	30.00	60.00
107 Ag # 3	-0.004918	-0.004918	ug/l	17.99	100.00		60.00	76.67	60.00
111 Cd # 3	0.01395	0.01395	ug/l	170.75	100.00		100.06	3.33	9.99
118 Sn # 3	0.07753	0.07753	ug/l	10.46	1800.00		1256.75	1170.08	1263.42
121 Sb # 3	0.001639	0.001639	ug/l	90.18	100.00		66.67	46.67	43.33
137 Ba # 3	5.998	5.998	ug/l	0.12	1800.00		22735.75	22822.43	22612.16
202 Hg # 3	-0.0212	-0.0212	ug/l	4.57	5.00		51.33	53.33	56.33
205 Tl # 3	-0.005878	-0.005878	ug/l	4.60	20.00		43.33	30.00	36.67
208 Pb # 3	0.008113	0.008113	ug/l	17.18	1800.00		1583.41	1576.75	1640.08
232 Th # 3	0.01837	0.01837	ug/l	14.11	#VALUE!		980.06	823.38	996.73
238 U # 3	0.01637	0.01637	ug/l	2.62	#VALUE!		640.03	643.37	680.04

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	379436.78	0.61	442436.88	85.8	60 - 125		376760.63	380925.56	380624.16
45 Sc # 1	387995.56	4.05	456299.72	85.0	60 - 125		369900.41	395872.84	398213.47
45 Sc # 3	673367.94	0.48	765061.25	88.0	60 - 125		673797.31	676338.94	669967.56
74 Ge # 1	136871.38	2.15	153441.28	89.2	60 - 125		133516.77	138042.64	139054.72
74 Ge # 2	41789.97	1.13	47804.94	87.4	60 - 125		42326.77	41608.53	41434.63
74 Ge # 3	204539.78	0.68	224564.78	91.1	60 - 125		202997.50	205679.23	204942.63
89 Y # 3	1219247.10	0.26	1302847.50	93.6	60 - 125		1218340.00	1216586.00	1222815.30
115 In # 3	1269074.30	0.50	1366177.60	92.9	60 - 125		1268001.40	1275900.10	1263321.50
159 Tb # 3	1841770.00	0.79	2052817.90	89.7	60 - 125		1844943.90	1854447.50	1825918.50
209 Bi # 3	1230421.50	1.01	1405468.50	87.5	60 - 125		1218015.40	1230399.50	1242849.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\278SMPL.D\278SMPL.D#
 Date Acquired: Aug 25 2014 08:14 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48933-b-8-b
 Misc Info: 3005 1/5
 Vial Number: 4107
 Current Method: C:\ICPCHEM\1\METHODS\BPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\BPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.004219	0.004219	ug/l	27.64	100.00		6.67	6.67	10.00
11 B # 3	2.273	2.273	ug/l	4.75	1800.00		4840.73	4890.72	5134.13
23 Na # 1	681.6	681.6	ug/l	0.27	81000.00		2132193.80	2153148.00	2144674.30
24 Mg # 1	350.7	350.7	ug/l	0.33	81000.00		743564.38	742705.06	746610.06
27 Al # 1	26.11	26.11	ug/l	5.75	81000.00		70748.29	66980.88	63585.99
39 K # 2	354.4	354.4	ug/l	0.09	81000.00		120830.77	120991.48	121527.86
40 Ca # 1	533.2	533.2	ug/l	0.24	81000.00		3123347.80	3124524.00	3134208.50
47 Ti # 3	0.2254	0.2254	ug/l	10.77	1620.00		343.36	306.69	303.35
51 V # 2	0.1154	0.1154	ug/l	7.97	1800.00		461.12	504.46	496.68
52 Cr # 2	0.06649	0.06649	ug/l	11.90	1800.00		464.45	501.12	511.12
55 Mn # 3	1.789	1.789	ug/l	1.17	1800.00		32448.89	32799.59	32221.90
56 Fe # 1	98.76	98.76	ug/l	0.35	81000.00		754055.75	752752.06	756438.44
59 Co # 3	0.01467	0.01467	ug/l	13.94	1800.00		270.01	273.34	226.67
60 Ni # 2	0.2224	0.2224	ug/l	7.77	1800.00		284.45	266.67	305.56
63 Cu # 2	-0.01174	-0.01174	ug/l	12.40	1800.00		362.23	361.12	356.67
66 Zn # 3	0.9418	0.9418	ug/l	2.98	1800.00		2320.22	2380.23	2453.57
75 As # 2	0.03124	0.03124	ug/l	12.65	100.00		22.00	23.33	24.67
78 Se # 1	-0.04228	-0.04228	ug/l	13.67	100.00		9.67	7.00	9.00
88 Sr # 3	2.851	2.851	ug/l	0.33	1800.00		66343.02	66704.48	66513.75
95 Mo # 3	-0.008498	-0.008498	ug/l	83.81	1800.00		50.00	80.00	103.34
107 Ag # 3	-0.006348	-0.006348	ug/l	9.22	100.00		56.67	46.67	46.67
111 Cd # 3	0.0116	0.0116	ug/l	36.80	100.00		26.66	26.65	43.31
118 Sn # 3	0.07307	0.07307	ug/l	14.97	1800.00		1246.75	1110.07	1203.41
121 Sb # 3	0.003274	0.003274	ug/l	19.84	100.00		70.00	60.00	66.67
137 Ba # 3	9.436	9.436	ug/l	1.19	1800.00		35026.75	35263.95	35878.54
202 Hg # 3	-0.02133	-0.02133	ug/l	2.70	5.00		54.33	52.67	52.00
205 Tl # 3	-0.005783	-0.005783	ug/l	20.70	20.00		23.33	20.00	73.34
208 Pb # 3	-0.008943	-0.008943	ug/l	21.49	1800.00		1063.38	1033.38	950.04
232 Th # 3	0.01574	0.01574	ug/l	10.01	#VALUE!		810.04	893.39	780.05
238 U # 3	0.01583	0.01583	ug/l	11.71	#VALUE!		700.04	596.70	583.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	374559.97	0.39	442436.88	84.7	60 - 125		373733.22	373682.59	376264.09
45 Sc # 1	392866.91	0.31	456299.72	86.1	60 - 125		391468.84	393468.91	393662.97
45 Sc # 3	664542.00	1.07	765061.25	86.9	60 - 125		661862.38	659159.06	672604.69
74 Ge # 1	137605.48	0.13	153441.28	89.7	60 - 125		137661.98	137400.34	137754.11
74 Ge # 2	41475.55	0.38	47804.94	86.8	60 - 125		41343.38	41431.41	41651.84
74 Ge # 3	203120.77	0.59	224564.78	90.5	60 - 125		201766.80	203530.27	204065.23
89 Y # 3	1198470.90	0.12	1302847.50	92.0	60 - 125		1198099.50	1197208.10	1200105.30
115 In # 3	1257044.30	0.66	1366177.60	92.0	60 - 125		1248437.60	1264904.50	1257790.90
159 Tb # 3	1832277.00	0.97	2052817.90	89.3	60 - 125		1812100.40	1845622.00	1839108.90
209 Bi # 3	1217637.50	0.97	1405468.50	86.6	60 - 125		1204085.30	1223719.00	1225108.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\279_QCS.D\279_QCS.D#
 Date Acquired: Aug 25 2014 08:21 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.08 ug/l	6.25	0.10 69.5 - 130	
11 B	19.93 ug/l	0.57	20.00 69.5 - 130	
23 Na	43.66 ug/l	0.36	50.00 69.5 - 130	
24 Mg	57.30 ug/l	0.74	50.00 69.5 - 130	
27 Al	11.67 ug/l	0.43	10.00 69.5 - 130	
39 K	41.96 ug/l	2.98	50.00 69.5 - 130	
40 Ca	57.96 ug/l	0.21	50.00 69.5 - 130	
47 Ti	0.95 ug/l	8.13	1.00 69.5 - 130	
51 V	0.97 ug/l	2.03	1.00 69.5 - 130	
52 Cr	0.99 ug/l	1.78	1.00 69.5 - 130	
55 Mn	1.04 ug/l	0.79	1.00 69.5 - 130	
56 Fe	23.95 ug/l	0.94	20.00 69.5 - 130	
59 Co	0.10 ug/l	2.06	0.10 69.5 - 130	
60 Ni	0.99 ug/l	2.49	1.00 69.5 - 130	
63 Cu	0.93 ug/l	2.24	1.00 69.5 - 130	
66 Zn	3.92 ug/l	1.28	4.00 69.5 - 130	
75 As	0.50 ug/l	6.87	0.50 69.5 - 130	
78 Se	0.47 ug/l	2.55	0.50 69.5 - 130	
88 Sr	0.19 ug/l	2.42	0.20 69.5 - 130	
95 Mo	0.99 ug/l	5.81	1.00 69.5 - 130	
107 Ag	0.21 ug/l	5.47	0.20 69.5 - 130	
111 Cd	0.10 ug/l	14.59	0.10 69.5 - 130	
118 Sn	1.07 ug/l	2.64	1.00 69.5 - 130	
121 Sb	0.98 ug/l	0.15	1.00 69.5 - 130	
137 Ba	1.01 ug/l	2.60	1.00 69.5 - 130	
202 Hg	0.14 ug/l	1.03	0.16 69.5 - 130	
205 Tl	0.19 ug/l	1.48	0.20 69.5 - 130	
208 Pb	0.28 ug/l	2.45	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	375403.28	0.51	442436.88	84.8	60 - 125	
45 Sc	391627.22	0.15	456299.72	85.8	60 - 125	
45 Sc	672461.88	0.85	765061.25	87.9	60 - 125	
74 Ge	138318.89	0.33	153441.28	90.1	60 - 125	
74 Ge	42104.72	1.10	47804.94	88.1	60 - 125	
74 Ge	205727.20	1.20	224564.78	91.6	60 - 125	
89 Y	1217693.00	0.61	1302847.50	93.5	60 - 125	
115 In	1269927.50	0.56	1366177.60	93.0	60 - 125	
159 Tb	1823192.50	0.88	2052817.90	88.8	60 - 125	
209 Bi	1216441.00	0.80	1405468.50	86.6	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\280_CCV.D\280_CCV.D#
 Date Acquired: Aug 25 2014 08:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.2 ug/l	0.51	50.00	89.5 - 110		79955.89	80230.24	82061.39
11 B	95.47 ug/l	1.90	100.00	89.5 - 110		121871.23	125386.17	128385.41
23 Na	5122 ug/l	0.26	5000.00	89.5 - 110		15722895.00	15679248.00	15829860.00
24 Mg	5086 ug/l	0.18	5000.00	89.5 - 110		10869237.00	10904910.00	10945359.00
27 Al	518 ug/l	0.41	500.00	89.5 - 110		1308649.40	1322346.00	1328389.30
39 K	4882 ug/l	0.24	5000.00	89.5 - 110		1564285.40	1559179.10	1574045.80
40 Ca	5206 ug/l	0.34	5000.00	89.5 - 110		30683922.00	30621606.00	30774912.00
47 Ti	50.65 ug/l	1.43	50.00	89.5 - 110		51725.15	52660.90	52376.88
51 V	48.62 ug/l	0.10	50.00	89.5 - 110		120276.41	120213.63	121432.62
52 Cr	48.49 ug/l	0.48	50.00	89.5 - 110		144782.14	145952.34	146707.11
55 Mn	499.8 ug/l	1.01	500.00	89.5 - 110		8976517.00	8982864.00	8959141.00
56 Fe	5418 ug/l	0.70	5000.00	89.5 - 110		41713292.00	41704260.00	41563424.00
59 Co	49.02 ug/l	0.70	50.00	89.5 - 110		666108.56	665188.88	667790.44
60 Ni	49.41 ug/l	0.44	50.00	89.5 - 110		55043.45	54851.79	55176.03
63 Cu	48.39 ug/l	0.69	50.00	89.5 - 110		148737.95	146690.17	148797.69
66 Zn	48.92 ug/l	0.49	50.00	89.5 - 110		96200.84	97256.43	98207.99
75 As	49.83 ug/l	0.92	50.00	89.5 - 110		16268.57	16213.18	16171.15
78 Se	50.77 ug/l	0.25	50.00	89.5 - 110		12313.83	12335.18	12391.23
88 Sr	48.42 ug/l	0.92	50.00	89.5 - 110		1153883.30	1157235.60	1179508.00
95 Mo	49.68 ug/l	0.91	50.00	89.5 - 110		187110.52	188074.64	187125.78
107 Ag	48.07 ug/l	0.41	50.00	89.5 - 110		505515.66	506143.31	508908.94
111 Cd	48.63 ug/l	0.90	50.00	89.5 - 110		110235.16	109399.73	112717.19
118 Sn	49.46 ug/l	0.77	50.00	89.5 - 110		352323.91	356465.53	355309.47
121 Sb	48.83 ug/l	0.44	50.00	89.5 - 110		417727.47	419018.25	420678.28
137 Ba	49.18 ug/l	0.69	50.00	89.5 - 110		187084.22	185739.92	187267.31
202 Hg	2.508 ug/l	0.42	2.50	89.5 - 110		7662.18	7590.15	7665.18
205 Tl	9.42 ug/l	0.12	10.00	89.5 - 110		239449.30	238682.78	239573.80
208 Pb	47.36 ug/l	0.24	50.00	89.5 - 110		1633029.10	1637191.00	1644598.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	379362.59	0.91	442436.88	85.7	60 - 125		377196.75	377544.09	383346.91
45 Sc	397485.59	0.50	456299.72	87.1	60 - 125		395914.56	396829.72	399712.59
45 Sc	699986.19	2.28	765061.25	91.5	60 - 125		685096.56	716835.06	698026.88
74 Ge	140005.44	0.56	153441.28	91.2	60 - 125		139503.36	139609.89	140903.05
74 Ge	42775.93	0.67	47804.94	89.5	60 - 125		42634.09	42587.32	43106.38
74 Ge	209447.95	0.88	224564.78	93.3	60 - 125		208255.20	208513.00	211575.63
89 Y	1236694.40	0.44	1302847.50	94.9	60 - 125		1230463.60	1238829.30	1240790.30
115 In	1273335.90	0.77	1366177.60	93.2	60 - 125		1266269.30	1269223.40	1284515.30
159 Tb	1874652.00	0.21	2052817.90	91.3	60 - 125		1873828.90	1871178.80	1878948.90
209 Bi	1226587.10	0.19	1405468.50	87.3	60 - 125		1223949.90	1227831.60	1227980.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\281_CCB.D\281_CCB.D#
 Date Acquired: Aug 25 2014 08:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements			Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
Element											
9	Be	# 3	0.00403	0.00403	ug/l	73.77	#VALUE!		6.67	3.33	13.33
11	B	# 3	1.448	1.448	ug/l	5.23	#VALUE!		4110.53	3903.82	4137.22
23	Na	# 1	-11.15	-11.15	ug/l	0.43	#VALUE!		51078.47	51077.99	51175.06
24	Mg	# 1	0.237	0.237	ug/l	16.11	#VALUE!		1556.77	1493.43	1403.42
27	Al	# 1	0.1314	0.1314	ug/l	24.25	#VALUE!		1716.79	1820.14	1893.48
39	K	# 2	-9.449	-9.449	ug/l	11.72	#VALUE!		9462.59	8915.72	9149.17
40	Ca	# 1	0.7114	0.7114	ug/l	4.81	#VALUE!		27460.53	27153.67	27500.53
47	Ti	# 3	-0.04502	-0.04502	ug/l	11.97	#VALUE!		60.00	56.67	50.00
51	V	# 2	-0.0152	-0.0152	ug/l	30.17	#VALUE!		171.11	195.56	175.56
52	Cr	# 2	-0.01788	-0.01788	ug/l	30.02	#VALUE!		254.45	242.23	272.23
55	Mn	# 3	0.02841	0.02841	ug/l	26.93	#VALUE!		1770.14	1873.47	2063.52
56	Fe	# 1	1.001	1.001	ug/l	3.46	#VALUE!		11997.48	11660.67	11567.20
59	Co	# 3	0.001139	0.001139	ug/l	128.09	#VALUE!		63.34	76.67	103.34
60	Ni	# 2	-0.003347	-0.003347	ug/l	285.75	#VALUE!		31.11	48.89	51.11
63	Cu	# 2	-0.04889	-0.04889	ug/l	15.19	#VALUE!		244.45	288.89	246.67
66	Zn	# 3	-0.06526	-0.06526	ug/l	22.92	#VALUE!		433.35	490.02	490.02
75	As	# 2	0.0003043	0.0003043	ug/l	1698.00	#VALUE!		12.67	13.67	16.00
78	Se	# 1	-0.03651	-0.03651	ug/l	30.57	#VALUE!		12.00	7.00	11.67
88	Sr	# 3	0.002414	0.002414	ug/l	37.52	#VALUE!		183.34	223.34	223.34
95	Mo	# 3	0.02585	0.02585	ug/l	41.97	#VALUE!		256.68	183.34	196.67
107	Ag	# 3	-0.001871	-0.001871	ug/l	53.00	#VALUE!		86.67	103.34	110.00
111	Cd	# 3	0.001543	0.001543	ug/l	158.91	#VALUE!		3.28	13.29	13.29
118	Sn	# 3	0.1022	0.1022	ug/l	10.96	#VALUE!		1383.43	1533.45	1403.44
121	Sb	# 3	0.02205	0.02205	ug/l	6.58	#VALUE!		243.34	226.68	226.68
137	Ba	# 3	0.002567	0.002567	ug/l	210.28	#VALUE!		23.33	56.67	63.34
202	Hg	# 3	0.01039	0.01039	ug/l	63.59	#VALUE!		168.67	133.00	143.67
205	Tl	# 3	-0.002725	-0.002725	ug/l	49.80	#VALUE!		146.67	123.34	80.00
208	Pb	# 3	-0.01629	-0.01629	ug/l	40.80	#VALUE!		573.36	743.56	1027.39

ISTD Elements			CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
Element											
6	Li	# 3	388518.09	1.01	442436.88	87.8	60 - 125		387318.44	385321.50	392914.38
45	Sc	# 1	401480.59	0.38	456299.72	88.0	60 - 125		399972.88	401414.97	403053.97
45	Sc	# 3	690857.06	0.76	765061.25	90.3	60 - 125		687651.75	688030.94	696888.56
74	Ge	# 1	141466.84	0.84	153441.28	92.2	60 - 125		141438.48	140297.61	142664.42
74	Ge	# 2	43098.93	0.89	47804.94	90.2	60 - 125		42736.65	43497.23	43062.91
74	Ge	# 3	210144.31	0.68	224564.78	93.6	60 - 125		208500.80	210752.63	211179.50
89	Y	# 3	1237267.10	0.67	1302847.50	95.0	60 - 125		1227694.30	1241595.10	1242512.10
115	In	# 3	1299820.60	1.45	1366177.60	95.1	60 - 125		1281165.30	1299398.40	1318898.10
159	Tb	# 3	1864667.30	0.97	2052817.90	90.8	60 - 125		1847930.80	1883875.10	1862195.80
209	Bi	# 3	1244094.50	1.21	1405468.50	88.5	60 - 125		1236085.90	1261456.10	1234741.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\282SMPL.D\282SMPL.D#
 Date Acquired: Aug 25 2014 08:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344712_1-a
 Misc Info: 3005 1/5
 Vial Number: 4404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	8.53E-005	8.53E-005	ug/l	1347.00	100.00		3.33	0.00	0.00
11 B # 3	0.9069	0.9069	ug/l	10.14	1800.00		3287.03	3287.03	3510.40
23 Na # 1	-9.865	-9.865	ug/l	0.99	81000.00		55517.00	56075.63	55727.36
24 Mg # 1	0.5441	0.5441	ug/l	6.97	81000.00		2270.20	2116.84	2143.51
27 Al # 1	1.35	1.35	ug/l	2.71	81000.00		5007.46	4900.75	5104.13
39 K # 2	-7.16	-7.16	ug/l	14.23	81000.00		10186.31	9692.75	9856.14
40 Ca # 1	6.686	6.686	ug/l	0.51	81000.00		63798.05	63764.67	63593.57
47 Ti # 3	-0.03986	-0.03986	ug/l	25.97	1620.00		70.00	63.34	50.00
51 V # 2	0.04104	0.04104	ug/l	14.21	1800.00		305.56	320.01	337.78
52 Cr # 2	-0.0004087	-0.0004087	ug/l	763.15	1800.00		297.78	310.01	320.01
55 Mn # 3	0.08898	0.08898	ug/l	1.58	1800.00		2956.99	3007.00	3010.33
56 Fe # 1	2.705	2.705	ug/l	1.62	81000.00		24917.11	25287.69	25671.62
59 Co # 3	-0.0005658	-0.0005658	ug/l	47.69	1800.00		53.33	60.00	60.00
60 Ni # 2	0.09944	0.09944	ug/l	5.31	1800.00		163.34	160.00	153.34
63 Cu # 2	-0.002123	-0.002123	ug/l	115.45	1800.00		408.90	401.12	401.12
66 Zn # 3	0.5738	0.5738	ug/l	3.27	1800.00		1723.47	1770.14	1716.80
75 As # 2	0.01758	0.01758	ug/l	72.07	100.00		19.00	24.33	16.00
78 Se # 1	-0.04425	-0.04425	ug/l	24.48	100.00		9.33	10.33	5.33
88 Sr # 3	0.006607	0.006607	ug/l	84.82	1800.00		286.68	456.96	193.34
95 Mo # 3	-0.005968	-0.005968	ug/l	74.43	1800.00		70.00	100.00	100.00
107 Ag # 3	-0.00371	-0.00371	ug/l	38.19	100.00		83.34	93.34	63.34
111 Cd # 3	0.0006245	0.0006245	ug/l	265.81	100.00		9.98	9.98	3.31
118 Sn # 3	0.1073	0.1073	ug/l	7.08	1800.00		1413.44	1533.44	1480.11
121 Sb # 3	0.01154	0.01154	ug/l	15.38	100.00		153.34	143.34	123.34
137 Ba # 3	0.006648	0.006648	ug/l	33.65	1800.00		53.34	66.67	70.00
202 Hg # 3	-0.01214	-0.01214	ug/l	21.10	5.00		72.33	84.33	87.34
205 Tl # 3	-0.00541	-0.00541	ug/l	5.27	20.00		56.67	43.33	46.67
208 Pb # 3	-0.0262	-0.0262	ug/l	9.05	1800.00		520.02	440.02	360.01
232 Th # 3	0.04177	0.04177	ug/l	3.08	#VALUE!		1783.50	1790.16	1883.51
238 U # 3	0.00103	0.00103	ug/l	45.34	#VALUE!		76.67	46.67	80.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391572.22	1.01	442436.88	88.5	60 - 125		387100.00	394654.53	392962.19
45 Sc # 1	406551.66	0.15	456299.72	89.1	60 - 125		406200.97	406195.75	407258.22
45 Sc # 3	694594.13	0.71	765061.25	90.8	60 - 125		689050.56	696102.94	698628.75
74 Ge # 1	141931.03	0.29	153441.28	92.5	60 - 125		141778.41	141614.59	142400.06
74 Ge # 2	43105.23	0.76	47804.94	90.2	60 - 125		42736.59	43355.88	43223.22
74 Ge # 3	210061.66	0.67	224564.78	93.5	60 - 125		209240.38	209256.39	211688.20
89 Y # 3	1245820.00	0.58	1302847.50	95.6	60 - 125		1246392.10	1238365.90	1252702.00
115 In # 3	1298041.40	0.32	1366177.60	95.0	60 - 125		1293425.40	1301655.30	1299043.50
159 Tb # 3	1863654.50	0.51	2052817.90	90.8	60 - 125		1853861.40	1872758.50	1864343.80
209 Bi # 3	1247730.90	0.47	1405468.50	88.8	60 - 125		1246271.50	1242782.00	1254138.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\283SMPL.D\283SMPL.D#
 Date Acquired: Aug 25 2014 08:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-344712_2-a
 Misc Info: 3005 1/5
 Vial Number: 4405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.04	10.04	ug/l	1.57	100.00		17354.68	17047.73	17247.91
11 B # 3	40.42	40.42	ug/l	0.33	1800.00		56014.16	56839.94	57104.24
23 Na # 1	1042	1042	ug/l	0.19	81000.00		3371864.00	3367399.80	3373396.50
24 Mg # 1	1060	1060	ug/l	0.52	81000.00		2338561.30	2335129.30	2356663.80
27 Al # 1	1039	1039	ug/l	0.33	81000.00		2727345.80	2730238.30	2720501.50
39 K # 2	998.1	998.1	ug/l	1.98	81000.00		327695.53	340409.91	331279.31
40 Ca # 1	1091	1091	ug/l	0.47	81000.00		6663262.50	6603600.50	6679728.50
47 Ti # 3	20.15	20.15	ug/l	0.31	1620.00		20665.29	20855.42	21079.02
51 V # 2	19.77	19.77	ug/l	1.85	1800.00		49396.06	49853.82	49804.79
52 Cr # 2	19.98	19.98	ug/l	1.56	1800.00		60856.27	60934.29	60787.06
55 Mn # 3	105.8	105.8	ug/l	0.98	1800.00		1895448.30	1907516.90	1936568.50
56 Fe # 1	1106	1106	ug/l	0.56	81000.00		8737273.00	8768007.00	8809326.00
59 Co # 3	10.3	10.3	ug/l	0.95	1800.00		139534.97	141278.11	142268.78
60 Ni # 2	20.59	20.59	ug/l	1.43	1800.00		23160.12	23281.34	23138.97
63 Cu # 2	19.87	19.87	ug/l	1.45	1800.00		61782.62	61719.14	61490.57
66 Zn # 3	20.15	20.15	ug/l	0.96	1800.00		40258.12	40738.86	41059.70
75 As # 2	20.55	20.55	ug/l	2.19	100.00		6700.57	6786.60	6806.95
78 Se # 1	20.49	20.49	ug/l	0.96	100.00		5078.72	5070.05	5116.40
88 Sr # 3	18.86	18.86	ug/l	0.36	1800.00		456132.53	456380.03	461885.63
95 Mo # 3	19.77	19.77	ug/l	0.40	1800.00		75339.45	76176.47	76708.97
107 Ag # 3	9.992	9.992	ug/l	0.76	100.00		106934.36	107614.46	107846.73
111 Cd # 3	9.948	9.948	ug/l	1.44	100.00		23059.16	22852.02	23385.96
118 Sn # 3	40.48	40.48	ug/l	0.47	1800.00		293448.38	297256.03	297171.19
121 Sb # 3	9.963	9.963	ug/l	0.58	100.00		85437.77	87869.27	88271.23
137 Ba # 3	19.35	19.35	ug/l	0.74	1800.00		73773.66	74791.36	76114.05
202 Hg # 3	0.8896	0.8896	ug/l	0.80	5.00		2753.91	2786.59	2835.26
205 Tl # 3	7.636	7.636	ug/l	1.02	20.00		193199.70	193637.05	196401.22
208 Pb # 3	9.75	9.75	ug/l	0.87	1800.00		337080.63	339367.25	340800.56
232 Th # 3	9.912	9.912	ug/l	0.37	#VALUE!		367382.44	367807.06	372240.91
238 U # 3	9.699	9.699	ug/l	0.41	#VALUE!		375330.34	375402.84	377244.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	396404.09	0.76	442436.88	89.6	60 - 125		392921.56	398118.53	398172.22
45 Sc # 1	409665.34	0.23	456299.72	89.8	60 - 125		410648.22	408732.34	409615.44
45 Sc # 3	700455.44	1.28	765061.25	91.6	60 - 125		691230.56	700939.44	709196.44
74 Ge # 1	142656.78	0.53	153441.28	93.0	60 - 125		143432.30	142630.67	141907.34
74 Ge # 2	43215.48	1.65	47804.94	90.4	60 - 125		43457.14	43776.78	42412.52
74 Ge # 3	210926.78	0.22	224564.78	93.9	60 - 125		210975.36	210440.75	211364.23
89 Y # 3	1250068.30	1.03	1302847.50	95.9	60 - 125		1244790.90	1240639.00	1264774.60
115 In # 3	1297691.90	1.19	1366177.60	95.0	60 - 125		1280046.60	1304644.60	1308384.30
159 Tb # 3	1878939.40	1.37	2052817.90	91.5	60 - 125		1849367.60	1891494.80	1895955.40
209 Bi # 3	1245114.00	0.62	1405468.50	88.6	60 - 125		1237101.60	1245840.90	1252399.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\284SMPL.D\284SMPL.D#
 Date Acquired: Aug 25 2014 08:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mdlv 680-344712_26-a
 Misc Info: 3005 1/5
 Vial Number: 4406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.07636	0.07636	ug/l	16.82	100.00		116.67	120.00	156.67
11 B #3	20.95	20.95	ug/l	1.10	1800.00		29920.20	30113.61	30617.88
23 Na #1	33.05	33.05	ug/l	37.13	81000.00		182137.86	183853.33	185150.02
24 Mg #1	14.7	14.7	ug/l	20.41	81000.00		31886.95	31930.50	32638.10
27 Al #1	13.22	13.22	ug/l	23.06	81000.00		33847.07	35493.36	34588.28
39 K #2	17.07	17.07	ug/l	5.53	81000.00		17598.56	17321.62	17465.05
40 Ca #1	62.01	62.01	ug/l	21.74	81000.00		381206.72	386497.31	383973.31
47 Ti #3	0.6279	0.6279	ug/l	7.45	1620.00		766.71	686.70	753.37
51 V #2	2.057	2.057	ug/l	17.04	1800.00		6224.82	4823.99	4795.10
52 Cr #2	1.024	1.024	ug/l	3.59	1800.00		3417.01	3269.20	3402.57
55 Mn #3	1.129	1.129	ug/l	1.30	1800.00		21399.34	21773.24	21870.10
56 Fe #1	18.02	18.02	ug/l	22.10	81000.00		138897.98	143631.45	139707.03
59 Co #3	0.05805	0.05805	ug/l	8.87	1800.00		783.37	856.71	926.72
60 Ni #2	1.234	1.234	ug/l	4.12	1800.00		1462.29	1408.96	1367.84
63 Cu #2	0.596	0.596	ug/l	5.04	1800.00		2213.49	2134.59	2295.72
66 Zn #3	4.227	4.227	ug/l	1.51	1800.00		8859.05	9052.47	8972.41
75 As #2	0.5503	0.5503	ug/l	2.07	100.00		190.67	197.00	188.00
78 Se #1	0.3027	0.3027	ug/l	23.04	100.00		87.67	90.00	96.67
88 Sr #3	0.2057	0.2057	ug/l	3.15	1800.00		4974.19	4984.17	5340.98
95 Mo #3	0.6242	0.6242	ug/l	2.82	1800.00		2440.24	2563.60	2460.25
107 Ag #3	0.1167	0.1167	ug/l	0.35	100.00		1343.43	1366.76	1373.43
111 Cd #3	0.07725	0.07725	ug/l	3.41	100.00		182.80	189.44	179.47
118 Sn #3	1.169	1.169	ug/l	3.34	1800.00		9259.41	9209.36	8929.18
121 Sb #3	0.3214	0.3214	ug/l	6.98	100.00		2897.00	2940.36	2630.27
137 Ba #3	0.311	0.311	ug/l	1.55	1800.00		1230.08	1233.41	1223.42
202 Hg #3	0.1847	0.1847	ug/l	1.97	5.00		653.35	665.68	679.68
205 Tl #3	0.1463	0.1463	ug/l	3.02	20.00		3733.89	3920.60	3943.95
208 Pb #3	0.08809	0.08809	ug/l	4.40	1800.00		4207.03	4450.39	4410.39
232 Th #3	0.1296	0.1296	ug/l	8.20	#VALUE!		5504.51	4854.26	4837.59
238 U #3	0.0004654	0.0004654	ug/l	59.52	#VALUE!		33.33	53.34	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	393871.44	0.26	442436.88	89.0	60 - 125		393821.91	392885.00	394907.44
45 Sc #1	404249.59	20.42	456299.72	88.6	60 - 125		492817.00	329493.50	390438.25
45 Sc #3	687258.19	0.70	765061.25	89.8	60 - 125		682092.63	691534.44	688147.50
74 Ge #1	141357.38	17.13	153441.28	92.1	60 - 125		166361.13	118014.62	139696.41
74 Ge #2	42566.20	0.92	47804.94	89.0	60 - 125		42168.60	42949.31	42580.68
74 Ge #3	209755.02	0.48	224564.78	93.4	60 - 125		209908.33	208670.55	210686.17
89 Y #3	1237609.00	1.07	1302847.50	95.0	60 - 125		1226667.50	1233876.60	1252282.80
115 In #3	1285713.40	1.21	1366177.60	94.1	60 - 125		1269739.00	1286463.90	1300937.10
159 Tb #3	1858818.90	0.62	2052817.90	90.5	60 - 125		1856437.90	1848635.00	1871384.10
209 Bi #3	1240710.60	0.73	1405468.50	88.3	60 - 125		1237508.60	1233669.80	1250953.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\285SMPL.D\285SMPL.D#
 Date Acquired: Aug 25 2014 09:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-344685_1-a
 Misc Info: 3010 1/5
 Vial Number: 4407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.941E-005	7.941E-005	ug/l	1434.30	100.00		0.00	3.33	0.00
11 B # 3	1.069	1.069	ug/l	7.35	1800.00		3520.40	3467.06	3673.78
23 Na # 1	-10.53	-10.53	ug/l	0.91	81000.00		52331.48	53250.84	52512.03
24 Mg # 1	0.3955	0.3955	ug/l	11.03	81000.00		1906.81	1730.13	1813.46
27 Al # 1	1.607	1.607	ug/l	7.79	81000.00		5314.22	5487.60	5907.74
39 K # 2	-8.395	-8.395	ug/l	6.45	81000.00		9262.56	9515.97	9215.85
40 Ca # 1	5.069	5.069	ug/l	2.37	81000.00		52179.57	53927.49	52844.09
47 Ti # 3	0.02437	0.02437	ug/l	290.40	1620.00		203.50	73.34	93.34
51 V # 2	0.09038	0.09038	ug/l	6.32	1800.00		431.12	423.34	452.23
52 Cr # 2	0.02236	0.02236	ug/l	20.90	1800.00		363.34	361.12	387.79
55 Mn # 3	0.3107	0.3107	ug/l	3.10	1800.00		6914.80	6631.37	6828.11
56 Fe # 1	23.76	23.76	ug/l	0.36	81000.00		187889.55	187999.69	186189.23
59 Co # 3	0.002156	0.002156	ug/l	46.23	1800.00		106.67	86.67	83.34
60 Ni # 2	0.04362	0.04362	ug/l	8.48	1800.00		98.89	92.22	92.22
63 Cu # 2	0.007252	0.007252	ug/l	209.05	1800.00		475.57	394.45	402.23
66 Zn # 3	0.2882	0.2882	ug/l	12.13	1800.00		1180.07	1063.40	1173.40
75 As # 2	0.04543	0.04543	ug/l	19.71	100.00		31.00	25.33	28.67
78 Se # 1	-0.0391	-0.0391	ug/l	27.03	100.00		11.67	6.67	10.00
88 Sr # 3	0.002969	0.002969	ug/l	29.71	1800.00		220.01	200.01	243.34
95 Mo # 3	-0.004532	-0.004532	ug/l	100.49	1800.00		113.34	83.34	83.34
107 Ag # 3	-0.003332	-0.003332	ug/l	94.57	100.00		70.00	56.67	120.00
111 Cd # 3	0.0006956	0.0006956	ug/l	320.87	100.00		6.64	3.32	13.32
118 Sn # 3	0.117	0.117	ug/l	7.25	1800.00		1446.77	1550.11	1536.77
121 Sb # 3	0.003199	0.003199	ug/l	55.71	100.00		83.34	56.67	56.67
137 Ba # 3	0.006739	0.006739	ug/l	26.95	1800.00		70.00	60.00	56.67
202 Hg # 3	-0.01354	-0.01354	ug/l	31.51	5.00		69.33	91.00	69.67
205 Tl # 3	-0.002292	-0.002292	ug/l	60.52	20.00		163.34	120.00	96.67
208 Pb # 3	-0.02562	-0.02562	ug/l	6.99	1800.00		466.68	390.02	516.69
232 Th # 3	0.06292	0.06292	ug/l	5.48	#VALUE!		2596.98	2433.61	2670.32
238 U # 3	-0.0002776	-0.0002776	ug/l	32.40	#VALUE!		20.00	13.33	16.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389009.06	0.66	442436.88	87.9	60 - 125		386060.31	390565.09	390401.75
45 Sc # 1	399085.78	0.46	456299.72	87.5	60 - 125		398613.06	401116.72	397527.47
45 Sc # 3	676453.38	0.29	765061.25	88.4	60 - 125		674877.69	678616.44	675866.06
74 Ge # 1	139583.08	0.29	153441.28	91.0	60 - 125		139602.34	139971.28	139175.63
74 Ge # 2	42265.13	0.28	47804.94	88.4	60 - 125		42156.38	42247.71	42391.31
74 Ge # 3	204301.00	0.62	224564.78	91.0	60 - 125		202935.91	204521.88	205445.22
89 Y # 3	1225200.80	0.64	1302847.50	94.0	60 - 125		1216980.30	1225973.40	1232648.40
115 In # 3	1268505.40	0.48	1366177.60	92.9	60 - 125		1271621.10	1261511.80	1272383.40
159 Tb # 3	1852929.10	0.85	2052817.90	90.3	60 - 125		1840905.00	1847113.90	1870768.30
209 Bi # 3	1228274.30	0.66	1405468.50	87.4	60 - 125		1218930.40	1233533.60	1232358.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\286SMPL.D\286SMPL.D#
 Date Acquired: Aug 25 2014 09:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-344685_2-a
 Misc Info: 3010 1/5
 Vial Number: 4408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.14	10.14	ug/l	0.47	100.00		17061.10	17134.45	17358.01
11 B # 3	40.59	40.59	ug/l	1.31	1800.00		56448.98	55516.00	56638.90
23 Na # 1	1103	1103	ug/l	7.90	81000.00		3337605.30	3322347.80	3346517.00
24 Mg # 1	1115	1115	ug/l	8.05	81000.00		2319244.00	2292004.00	2317808.50
27 Al # 1	1107	1107	ug/l	7.75	81000.00		2724327.50	2741132.50	2701530.00
39 K # 2	1003	1003	ug/l	0.39	81000.00		322665.00	322908.88	327826.81
40 Ca # 1	1156	1156	ug/l	7.17	81000.00		6561957.50	6620535.00	6615290.00
47 Ti # 3	20.41	20.41	ug/l	2.79	1620.00		20291.39	20428.27	21352.71
51 V # 2	20.15	20.15	ug/l	0.94	1800.00		48919.15	49188.77	49148.77
52 Cr # 2	20.44	20.44	ug/l	1.28	1800.00		60610.92	59603.30	60821.60
55 Mn # 3	107.9	107.9	ug/l	0.28	1800.00		1893905.40	1907184.80	1921830.00
56 Fe # 1	1206	1206	ug/l	8.02	81000.00		8988105.00	8936092.00	8929931.00
59 Co # 3	10.39	10.39	ug/l	0.50	1800.00		139242.63	138335.77	139807.36
60 Ni # 2	21.04	21.04	ug/l	1.15	1800.00		22993.24	22645.03	23259.15
63 Cu # 2	20.35	20.35	ug/l	0.64	1800.00		61006.82	60706.97	61880.75
66 Zn # 3	19.83	19.83	ug/l	1.05	1800.00		39175.60	38671.41	39643.20
75 As # 2	20.68	20.68	ug/l	0.86	100.00		6585.53	6591.53	6617.21
78 Se # 1	20.72	20.72	ug/l	5.35	100.00		4870.66	4865.66	4881.66
88 Sr # 3	18.99	18.99	ug/l	0.36	1800.00		452148.91	456242.38	455932.34
95 Mo # 3	19.95	19.95	ug/l	0.56	1800.00		75235.65	74914.04	76002.19
107 Ag # 3	9.561	9.561	ug/l	0.45	100.00		100822.21	101214.34	100871.75
111 Cd # 3	10.04	10.04	ug/l	0.86	100.00		22665.27	23122.68	22888.76
118 Sn # 3	40.77	40.77	ug/l	0.88	1800.00		291256.06	295367.50	291411.66
121 Sb # 3	10.04	10.04	ug/l	1.20	100.00		85370.30	87494.08	86007.11
137 Ba # 3	19.69	19.69	ug/l	0.53	1800.00		74932.27	74576.84	74891.53
202 Hg # 3	0.5322	0.5322	ug/l	1.75	5.00		1693.76	1677.09	1736.77
205 Tl # 3	7.757	7.757	ug/l	0.14	20.00		194850.27	195699.86	196574.81
208 Pb # 3	9.9	9.9	ug/l	0.36	1800.00		339166.47	340608.28	343917.72
232 Th # 3	10.12	10.12	ug/l	0.35	#VALUE!		372145.88	373331.66	375543.81
238 U # 3	9.896	9.896	ug/l	0.16	#VALUE!		379715.25	379398.53	382014.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391667.84	0.60	442436.88	88.5	60 - 125		389063.00	392265.47	393675.03
45 Sc # 1	385145.25	7.32	456299.72	84.4	60 - 125		352567.91	401469.56	401398.28
45 Sc # 3	685500.13	0.08	765061.25	89.6	60 - 125		685924.56	684881.56	685694.25
74 Ge # 1	135354.52	5.20	153441.28	88.2	60 - 125		127299.91	140298.89	138464.75
74 Ge # 2	41883.13	1.11	47804.94	87.6	60 - 125		41471.50	41787.75	42390.14
74 Ge # 3	206213.77	0.46	224564.78	91.8	60 - 125		205346.47	206068.13	207226.69
89 Y # 3	1232176.60	0.31	1302847.50	94.6	60 - 125		1229261.30	1236578.40	1230690.50
115 In # 3	1274084.80	0.43	1366177.60	93.3	60 - 125		1268535.90	1274270.90	1279447.80
159 Tb # 3	1862032.00	0.49	2052817.90	90.7	60 - 125		1851808.80	1864841.90	1869445.40
209 Bi # 3	1234490.60	0.26	1405468.50	87.8	60 - 125		1234356.40	1231305.90	1237809.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\287SMPL.D\287SMPL.D#
 Date Acquired: Aug 25 2014 09:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mdlv 680-344685_3-a
 Misc Info: 3010 1/5
 Vial Number: 4409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0806	0.0806	ug/l	13.23	100.00		146.67	146.67	116.67
11 B # 3	20.09	20.09	ug/l	0.46	1800.00		28508.05	28754.94	28951.96
23 Na # 1	30.2	30.2	ug/l	1.79	81000.00		178006.17	178254.53	176688.33
24 Mg # 1	14.08	14.08	ug/l	0.60	81000.00		31255.83	31202.41	31322.62
27 Al # 1	12.28	12.28	ug/l	2.11	81000.00		32925.54	33339.46	32204.23
39 K # 2	14.69	14.69	ug/l	16.81	81000.00		17211.65	15993.77	16561.02
40 Ca # 1	57.22	57.22	ug/l	1.03	81000.00		362052.66	362565.66	359160.38
47 Ti # 3	0.5132	0.5132	ug/l	6.84	1620.00		646.70	583.36	613.36
51 V # 2	1.762	1.762	ug/l	1.06	1800.00		4511.69	4591.71	4475.02
52 Cr # 2	0.9959	0.9959	ug/l	1.44	1800.00		3196.97	3339.22	3236.97
55 Mn # 3	1.259	1.259	ug/l	1.78	1800.00		23211.80	24025.97	23939.29
56 Fe # 1	36.35	36.35	ug/l	1.18	81000.00		286241.19	282720.56	284250.19
59 Co # 3	0.06734	0.06734	ug/l	2.85	1800.00		966.72	1000.06	943.38
60 Ni # 2	1.112	1.112	ug/l	1.24	1800.00		1270.06	1283.39	1253.39
63 Cu # 2	0.5998	0.5998	ug/l	3.75	1800.00		2173.48	2173.48	2285.72
66 Zn # 3	3.859	3.859	ug/l	3.34	1800.00		7888.56	8435.51	8075.29
75 As # 2	0.5062	0.5062	ug/l	5.92	100.00		185.00	169.67	174.33
78 Se # 1	0.2727	0.2727	ug/l	11.51	100.00		82.00	79.67	92.67
88 Sr # 3	0.2006	0.2006	ug/l	4.41	1800.00		4894.13	5057.53	4744.09
95 Mo # 3	0.5521	0.5521	ug/l	3.67	1800.00		2253.54	2200.20	2113.52
107 Ag # 3	0.108	0.108	ug/l	1.16	100.00		1263.42	1250.08	1250.09
111 Cd # 3	0.06988	0.06988	ug/l	33.10	100.00		206.18	182.86	106.21
118 Sn # 3	1.112	1.112	ug/l	0.99	1800.00		8575.71	8742.45	8555.70
121 Sb # 3	0.3062	0.3062	ug/l	5.80	100.00		2693.63	2503.59	2790.31
137 Ba # 3	0.2885	0.2885	ug/l	2.96	1800.00		1160.07	1106.74	1123.40
202 Hg # 3	0.1248	0.1248	ug/l	7.18	5.00		473.01	519.01	472.68
205 Tl # 3	0.1435	0.1435	ug/l	3.61	20.00		3860.59	3860.59	3663.87
208 Pb # 3	0.09053	0.09053	ug/l	7.04	1800.00		4460.39	4633.76	4223.70
232 Th # 3	0.1508	0.1508	ug/l	11.80	#VALUE!		6421.56	5791.28	5204.43
238 U # 3	0.0007067	0.0007067	ug/l	20.42	#VALUE!		60.00	53.34	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389391.22	0.50	442436.88	88.0	60 - 125		388151.50	388375.16	391646.97
45 Sc # 1	398918.41	0.60	456299.72	87.4	60 - 125		396211.94	399875.41	400667.97
45 Sc # 3	681489.94	0.63	765061.25	89.1	60 - 125		676546.38	683958.94	683964.50
74 Ge # 1	139384.36	0.79	153441.28	90.8	60 - 125		139414.05	140470.00	138269.00
74 Ge # 2	42270.31	1.00	47804.94	88.4	60 - 125		41840.06	42688.69	42282.19
74 Ge # 3	207185.05	0.33	224564.78	92.3	60 - 125		20707.38	207967.55	206880.22
89 Y # 3	1219025.90	1.10	1302847.50	93.6	60 - 125		1216219.80	1207196.50	1233661.50
115 In # 3	1271431.10	0.45	1366177.60	93.1	60 - 125		1265300.40	1276626.40	1272366.90
159 Tb # 3	1858931.30	0.52	2052817.90	90.6	60 - 125		1848913.30	1859538.50	1868342.30
209 Bi # 3	1231752.00	0.79	1405468.50	87.6	60 - 125		1221399.40	1233083.50	1240773.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\288_CCV.D\288_CCV.D#
 Date Acquired: Aug 25 2014 09:28 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.75 ug/l	1.19	50.00	89.5 - 110		82589.88	83081.80	82134.63
11 B	95.1 ug/l	1.44	100.00	89.5 - 110		127275.34	129214.49	129846.25
23 Na	5091 ug/l	0.57	5000.00	89.5 - 110		16160733.00	16148453.00	16138636.00
24 Mg	5044 ug/l	0.67	5000.00	89.5 - 110		11158097.00	11174283.00	11156455.00
27 Al	512.5 ug/l	1.44	500.00	89.5 - 110		1336641.50	1346742.90	1359587.80
39 K	4832 ug/l	0.81	5000.00	89.5 - 110		1576029.50	1596328.90	1600438.00
40 Ca	5202 ug/l	1.02	5000.00	89.5 - 110		31513102.00	31800816.00	31632266.00
47 Ti	51.32 ug/l	0.37	50.00	89.5 - 110		53115.73	53379.68	53169.09
51 V	48.51 ug/l	0.10	50.00	89.5 - 110		123267.70	123020.82	124370.70
52 Cr	48.17 ug/l	0.22	50.00	89.5 - 110		148167.33	148295.81	149636.44
55 Mn	504.8 ug/l	0.53	500.00	89.5 - 110		9084823.00	9124980.00	9261355.00
56 Fe	5356 ug/l	0.38	5000.00	89.5 - 110		42760208.00	42254068.00	42509432.00
59 Co	49.2 ug/l	0.53	50.00	89.5 - 110		668560.81	676897.31	681803.75
60 Ni	49.46 ug/l	0.69	50.00	89.5 - 110		56912.42	56137.75	56565.87
63 Cu	48.34 ug/l	0.57	50.00	89.5 - 110		151558.28	152028.83	151856.17
66 Zn	49.2 ug/l	1.06	50.00	89.5 - 110		97149.15	99283.77	99977.59
75 As	49.78 ug/l	0.93	50.00	89.5 - 110		16536.47	16730.31	16619.87
78 Se	50.71 ug/l	0.60	50.00	89.5 - 110		12680.42	12490.29	12646.06
88 Sr	49.21 ug/l	1.61	50.00	89.5 - 110		1186104.10	1186190.40	1207793.60
95 Mo	49.64 ug/l	0.90	50.00	89.5 - 110		189939.23	190380.63	191216.52
107 Ag	47.99 ug/l	0.56	50.00	89.5 - 110		512058.13	517751.88	514611.81
111 Cd	48.53 ug/l	1.57	50.00	89.5 - 110		112559.53	111445.44	113427.39
118 Sn	49.42 ug/l	0.71	50.00	89.5 - 110		358286.91	360730.19	362665.97
121 Sb	48.5 ug/l	0.90	50.00	89.5 - 110		422852.53	424205.00	423579.53
137 Ba	48.74 ug/l	1.09	50.00	89.5 - 110		188074.47	187798.56	188800.02
202 Hg	2.593 ug/l	2.29	2.50	89.5 - 110		7819.93	8041.05	7884.62
205 Tl	9.527 ug/l	1.21	10.00	89.5 - 110		241336.88	243490.56	242997.89
208 Pb	47.76 ug/l	1.37	50.00	89.5 - 110		1646518.30	1665770.80	1657782.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	391714.84	0.66	442436.88	88.5	60 - 125		393393.22	388734.22	393017.06
45 Sc	410200.47	0.64	456299.72	89.9	60 - 125		413203.94	408930.84	408466.53
45 Sc	703402.00	0.52	765061.25	91.9	60 - 125		699190.94	706058.44	704956.69
74 Ge	143122.59	0.38	153441.28	93.3	60 - 125		143072.58	142602.92	143692.27
74 Ge	43908.95	0.52	47804.94	91.9	60 - 125		43855.88	43710.00	44160.97
74 Ge	211612.83	0.49	224564.78	94.2	60 - 125		210638.48	211484.92	212715.08
89 Y	1248166.90	0.96	1302847.50	95.8	60 - 125		1238788.50	1261742.60	1243969.30
115 In	1295445.80	1.05	1366177.60	94.8	60 - 125		1280287.80	1306519.00	1299530.30
159 Tb	1879870.10	1.04	2052817.90	91.6	60 - 125		1878626.40	1861067.00	1899917.30
209 Bi	1241179.40	0.99	1405468.50	88.3	60 - 125		1229145.30	1253674.00	1240718.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\289_CCB.D\289_CCB.D#
 Date Acquired: Aug 25 2014 09:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003362	0.003362	ug/l	1.19	#VALUE!		6.67	6.67	6.67
11 B #3	1.628	1.628	ug/l	4.96	#VALUE!		4347.25	4207.25	4393.93
23 Na #1	-11.56	-11.56	ug/l	0.82	#VALUE!		51389.09	50958.11	50670.34
24 Mg #1	0.1864	0.1864	ug/l	8.01	#VALUE!		1396.75	1390.09	1436.76
27 Al #1	0.06817	0.06817	ug/l	43.85	#VALUE!		1610.11	1773.48	1676.78
39 K #2	-9.547	-9.547	ug/l	5.02	#VALUE!		9259.24	9062.40	9155.79
40 Ca #1	0.5782	0.5782	ug/l	6.73	#VALUE!		27303.53	27550.60	26789.42
47 Ti #3	-0.05809	-0.05809	ug/l	14.39	#VALUE!		50.00	33.34	43.33
51 V #2	-0.01232	-0.01232	ug/l	40.92	#VALUE!		174.45	200.00	190.00
52 Cr #2	-0.01846	-0.01846	ug/l	49.12	#VALUE!		283.34	245.56	235.56
55 Mn #3	0.01916	0.01916	ug/l	25.00	#VALUE!		1626.79	1806.80	1790.15
56 Fe #1	0.9281	0.9281	ug/l	1.91	#VALUE!		11593.91	11350.44	11390.44
59 Co #3	0.0007233	0.0007233	ug/l	144.34	#VALUE!		80.00	86.67	60.00
60 Ni #2	0.005598	0.005598	ug/l	138.60	#VALUE!		56.67	60.00	44.44
63 Cu #2	-0.0533	-0.0533	ug/l	5.44	#VALUE!		254.45	237.78	247.78
66 Zn #3	-0.07222	-0.07222	ug/l	27.29	#VALUE!		416.68	456.69	503.36
75 As #2	0.001861	0.001861	ug/l	547.56	#VALUE!		12.00	13.33	18.67
78 Se #1	-0.03433	-0.03433	ug/l	5.11	#VALUE!		11.33	11.33	10.33
88 Sr #3	0.0002753	0.0002753	ug/l	284.38	#VALUE!		140.01	180.01	160.00
95 Mo #3	0.02587	0.02587	ug/l	24.95	#VALUE!		193.34	203.34	243.34
107 Ag #3	-0.0007511	-0.0007511	ug/l	112.54	#VALUE!		120.00	103.34	113.34
111 Cd #3	0.001535	0.001535	ug/l	184.04	#VALUE!		3.29	9.96	16.61
118 Sn #3	0.1091	0.1091	ug/l	4.84	#VALUE!		1500.11	1523.45	1460.10
121 Sb #3	0.02185	0.02185	ug/l	28.32	#VALUE!		240.01	280.01	173.34
137 Ba #3	0.004597	0.004597	ug/l	125.30	#VALUE!		70.00	30.00	66.67
202 Hg #3	0.008478	0.008478	ug/l	38.96	#VALUE!		153.00	134.67	142.67
205 Tl #3	-0.001686	-0.001686	ug/l	52.94	#VALUE!		150.01	160.01	120.00
208 Pb #3	0.001399	0.001399	ug/l	3144.40	#VALUE!		543.35	3127.51	496.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	391150.19	1.01	442436.88	88.4	60 - 125		386729.00	392343.53	394378.09
45 Sc #1	411062.47	0.56	456299.72	90.1	60 - 125		411655.28	413001.53	408530.56
45 Sc #3	689796.81	0.45	765061.25	90.2	60 - 125		686675.63	689839.50	692875.38
74 Ge #1	144765.38	1.33	153441.28	94.3	60 - 125		146292.81	145391.63	142611.67
74 Ge #2	43163.13	1.13	47804.94	90.3	60 - 125		42821.20	42945.94	43722.25
74 Ge #3	210819.78	0.92	224564.78	93.9	60 - 125		208805.83	210988.16	212665.38
89 Y #3	1248391.60	0.95	1302847.50	95.8	60 - 125		1245995.50	1261255.00	1237924.50
115 In #3	1303398.30	0.90	1366177.60	95.4	60 - 125		1290139.60	1307649.80	1312405.40
159 Tb #3	1872647.60	1.48	2052817.90	91.2	60 - 125		1853553.50	1860062.90	1904326.60
209 Bi #3	1247547.90	0.47	1405468.50	88.8	60 - 125		1243575.40	1254253.50	1244814.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\290SMPL.D\290SMPL.D#
 Date Acquired: Aug 25 2014 09:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345644_1-a
 Misc Info: 3010 1/5
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.63E-005	7.63E-005	ug/l	1486.20	100.00		3.33	0.00	0.00
11 B # 3	1.176	1.176	ug/l	3.18	1800.00		3750.45	3663.77	3783.81
23 Na # 1	-10.09	-10.09	ug/l	1.87	81000.00		55055.65	54942.00	55851.37
24 Mg # 1	0.3735	0.3735	ug/l	12.08	81000.00		1926.82	1716.79	1786.80
27 Al # 1	0.9627	0.9627	ug/l	4.97	81000.00		4123.89	4050.57	3863.82
39 K # 2	-7.601	-7.601	ug/l	4.87	81000.00		9862.88	9702.73	9722.74
40 Ca # 1	10.54	10.54	ug/l	0.40	81000.00		87458.80	86929.02	87398.16
47 Ti # 3	-0.03656	-0.03656	ug/l	35.39	1620.00		56.67	80.00	56.67
51 V # 2	0.08331	0.08331	ug/l	18.27	1800.00		416.68	397.79	463.34
52 Cr # 2	0.02029	0.02029	ug/l	24.62	1800.00		355.56	386.67	372.23
55 Mn # 3	0.05847	0.05847	ug/l	1.45	1800.00		2420.24	2430.22	2453.57
56 Fe # 1	0.8073	0.8073	ug/l	2.50	81000.00		10610.00	10396.52	10226.48
59 Co # 3	0.001413	0.001413	ug/l	112.53	1800.00		93.34	100.00	60.00
60 Ni # 2	0.07868	0.07868	ug/l	16.17	1800.00		123.34	152.22	131.11
63 Cu # 2	-0.03419	-0.03419	ug/l	9.39	1800.00		295.56	307.78	311.12
66 Zn # 3	0.7604	0.7604	ug/l	4.23	1800.00		2046.84	2070.18	2183.53
75 As # 2	0.04107	0.04107	ug/l	19.29	100.00		30.33	25.33	26.67
78 Se # 1	-0.03762	-0.03762	ug/l	5.61	100.00		10.33	10.33	9.33
88 Sr # 3	0.007979	0.007979	ug/l	16.23	1800.00		316.68	336.68	376.68
95 Mo # 3	-0.0002117	-0.0002117	ug/l	2272.60	1800.00		130.00	110.00	93.34
107 Ag # 3	-0.004375	-0.004375	ug/l	7.95	100.00		76.67	70.00	70.00
111 Cd # 3	0.001144	0.001144	ug/l	265.73	100.00		6.64	16.64	3.31
118 Sn # 3	0.1289	0.1289	ug/l	1.23	1800.00		1620.13	1600.11	1636.79
121 Sb # 3	0.006417	0.006417	ug/l	55.18	100.00		130.01	73.34	80.00
137 Ba # 3	0.01665	0.01665	ug/l	3.80	1800.00		100.00	103.34	100.00
202 Hg # 3	-0.01561	-0.01561	ug/l	13.27	5.00		76.00	71.33	64.67
205 Tl # 3	-0.003416	-0.003416	ug/l	19.46	20.00		113.34	80.00	103.34
208 Pb # 3	-0.01225	-0.01225	ug/l	11.74	1800.00		876.70	963.38	906.71
232 Th # 3	0.06205	0.06205	ug/l	3.43	#VALUE!		2580.29	2570.31	2453.61
238 U # 3	0.0004185	0.0004185	ug/l	129.80	#VALUE!		26.67	36.67	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392880.00	0.39	442436.88	88.8	60 - 125		392417.78	391632.38	394589.78
45 Sc # 1	408157.44	0.42	456299.72	89.4	60 - 125		410092.66	406884.50	407495.19
45 Sc # 3	693285.38	1.01	765061.25	90.6	60 - 125		685255.63	696426.06	698174.38
74 Ge # 1	142323.56	0.65	153441.28	92.8	60 - 125		143185.02	142431.45	141354.22
74 Ge # 2	43067.36	0.96	47804.94	90.1	60 - 125		43184.36	43408.13	42609.58
74 Ge # 3	209413.97	0.87	224564.78	93.3	60 - 125		207301.22	210535.13	210405.55
89 Y # 3	1236130.80	0.17	1302847.50	94.9	60 - 125		1238498.60	1235520.10	1234373.50
115 In # 3	1286744.90	0.49	1366177.60	94.2	60 - 125		1289907.30	1279446.50	1290881.00
159 Tb # 3	1856153.30	0.94	2052817.90	90.4	60 - 125		1852941.40	1840619.10	1874899.10
209 Bi # 3	1228242.10	1.13	1405468.50	87.4	60 - 125		1214408.50	1242269.30	1228048.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\291SMPL.D\291SMPL.D#
 Date Acquired: Aug 25 2014 09:50 pm
 Acq. Method: BPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345644_2-a
 Misc Info: 3010 1/5
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	21.41	21.41	ug/l	1.06	100.00		37429.64	38284.63	37446.34
11 B # 3	85.95	85.95	ug/l	0.97	1800.00		120411.84	120526.02	122669.95
23 Na # 1	33970	33970	ug/l	25.61	81000.00		109462380.00	103484620.00	109356340.00
24 Mg # 1	2299	2299	ug/l	25.92	81000.00		5186911.00	4888589.00	5202063.00
27 Al # 1	2288	2288	ug/l	26.32	81000.00		6064476.50	5786929.50	6189213.00
39 K # 2	2196	2196	ug/l	0.83	81000.00		718171.31	724548.13	725736.81
40 Ca # 1	2399	2399	ug/l	26.07	81000.00		14799696.00	14082666.00	14986335.00
47 Ti # 3	43.36	43.36	ug/l	1.45	1620.00		45682.88	45736.36	45495.72
51 V # 2	43.86	43.86	ug/l	0.70	1800.00		110311.75	110728.40	110910.58
52 Cr # 2	43.86	43.86	ug/l	0.23	1800.00		134258.47	134693.69	133293.66
55 Mn # 3	224.2	224.2	ug/l	0.81	1800.00		4030358.80	4042071.30	4043802.50
56 Fe # 1	2397	2397	ug/l	26.40	81000.00		19321106.00	18214606.00	19552978.00
59 Co # 3	22.15	22.15	ug/l	0.89	1800.00		301931.44	304773.13	299861.84
60 Ni # 2	44.15	44.15	ug/l	1.33	1800.00		49621.68	49852.23	50472.81
63 Cu # 2	42.84	42.84	ug/l	0.68	1800.00		133551.28	133118.48	133174.53
66 Zn # 3	41.55	41.55	ug/l	0.95	1800.00		82963.45	83010.49	82880.16
75 As # 2	43.79	43.79	ug/l	0.11	100.00		14469.39	14567.13	14426.69
78 Se # 1	43.62	43.62	ug/l	20.36	100.00		10850.57	10307.61	10938.97
88 Sr # 3	42.34	42.34	ug/l	1.07	1800.00		1029097.30	1057907.10	1033879.90
95 Mo # 3	43.49	43.49	ug/l	1.17	1800.00		165155.81	167076.09	165468.45
107 Ag # 3	20.81	20.81	ug/l	0.57	100.00		220579.97	222330.55	222786.53
111 Cd # 3	20.97	20.97	ug/l	1.75	100.00		48902.94	47478.66	48494.93
118 Sn # 3	86.19	86.19	ug/l	1.58	1800.00		624252.00	629418.31	619380.13
121 Sb # 3	21.3	21.3	ug/l	1.60	100.00		183976.39	187043.44	183620.08
137 Ba # 3	41.79	41.79	ug/l	0.88	1800.00		160789.73	159623.73	160745.33
202 Hg # 3	1.901	1.901	ug/l	0.63	5.00		5800.40	5872.12	5846.41
205 Tl # 3	16	16	ug/l	0.82	20.00		407055.19	409976.28	405872.22
208 Pb # 3	20.41	20.41	ug/l	0.34	1800.00		705179.38	710909.44	711755.69
232 Th # 3	22.76	22.76	ug/l	1.12	#VALUE!		804368.81	809141.75	812742.56
238 U # 3	21.87	21.87	ug/l	1.76	#VALUE!		812892.06	807170.69	807428.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	407196.84	0.77	442436.88	92.0	60 - 125		403594.25	409189.66	408806.59
45 Sc # 1	427751.81	23.26	456299.72	93.7	60 - 125		419236.47	531248.31	332770.63
45 Sc # 3	713728.38	1.21	765061.25	93.3	60 - 125		706282.38	711746.63	723156.06
74 Ge # 1	144623.30	17.69	153441.28	94.3	60 - 125		142396.72	171248.23	120224.96
74 Ge # 2	43483.50	0.60	47804.94	91.0	60 - 125		43432.63	43767.90	43249.97
74 Ge # 3	210173.83	0.96	224564.78	93.6	60 - 125		208069.53	212095.67	210356.27
89 Y # 3	1264473.10	1.07	1302847.50	97.1	60 - 125		1248904.10	1273399.60	1271115.60
115 In # 3	1287360.80	0.90	1366177.60	94.2	60 - 125		1278428.00	1283205.60	1300448.40
159 Tb # 3	1881166.40	0.41	2052817.90	91.6	60 - 125		1875287.60	1878304.10	1889907.90
209 Bi # 3	1188549.10	1.38	1405468.50	84.6	60 - 125		1171486.90	1204084.10	1190076.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\292SMPL.D\292SMPL.D#
 Date Acquired: Aug 25 2014 09:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 1b 680-345592_1-b
 Misc Info: 3010 1/5
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babha.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	1.538	1.538	ug/l	5.66	1800.00		4387.27	4480.62	4287.26
23 Na # 1	25850	25850	ug/l	11.77	81000.00		87324992.00	87850776.00	85511256.00
24 Mg # 1	0.5848	0.5848	ug/l	27.07	81000.00		2503.58	2496.89	2280.20
27 Al # 1	1.456	1.456	ug/l	18.38	81000.00		5721.00	5797.69	5474.27
39 K # 2	-6.018	-6.018	ug/l	9.33	81000.00		10576.55	10343.13	10206.35
40 Ca # 1	7.034	7.034	ug/l	17.09	81000.00		71000.04	70892.97	70230.42
47 Ti # 3	0.02036	0.02036	ug/l	242.19	1620.00		103.34	90.00	186.67
51 V # 2	0.08301	0.08301	ug/l	15.54	1800.00		425.56	402.23	461.12
52 Cr # 2	0.04074	0.04074	ug/l	20.16	1800.00		416.68	468.90	427.79
55 Mn # 3	0.0315	0.0315	ug/l	14.52	1800.00		2060.17	1943.49	1953.49
56 Fe # 1	1.077	1.077	ug/l	15.03	81000.00		13488.58	13315.16	13472.27
59 Co # 3	-0.001037	-0.001037	ug/l	111.67	1800.00		33.33	60.00	63.34
60 Ni # 2	0.07708	0.07708	ug/l	23.65	1800.00		130.00	158.89	116.67
63 Cu # 2	-0.03664	-0.03664	ug/l	6.29	1800.00		292.23	304.45	304.45
66 Zn # 3	0.155	0.155	ug/l	17.53	1800.00		850.05	966.72	946.72
75 As # 2	0.05263	0.05263	ug/l	17.49	100.00		28.33	34.67	31.67
78 Se # 1	-0.03617	-0.03617	ug/l	22.43	100.00		12.00	11.00	9.33
88 Sr # 3	0.019	0.019	ug/l	9.00	1800.00		620.03	580.03	670.04
95 Mo # 3	0.0171	0.0171	ug/l	41.88	1800.00		206.67	153.34	180.01
107 Ag # 3	-0.005411	-0.005411	ug/l	13.11	100.00		66.67	53.34	66.67
111 Cd # 3	-0.001789	-0.001789	ug/l	45.85	100.00		-0.05	3.30	3.29
118 Sn # 3	0.1519	0.1519	ug/l	13.31	1800.00		1963.51	1703.47	1776.81
121 Sb # 3	0.01129	0.01129	ug/l	9.46	100.00		140.01	146.67	130.00
137 Ba # 3	0.04759	0.04759	ug/l	18.42	1800.00		260.01	200.01	210.01
202 Hg # 3	-0.002667	-0.002667	ug/l	219.54	5.00		131.01	102.67	101.00
205 Tl # 3	0.01427	0.01427	ug/l	14.91	20.00		613.37	530.03	523.36
208 Pb # 3	-0.0115	-0.0115	ug/l	6.24	1800.00		943.38	943.38	1003.38
232 Th # 3	0.1627	0.1627	ug/l	7.58	#VALUE!		6581.60	6111.38	5761.27
238 U # 3	0.002054	0.002054	ug/l	24.76	#VALUE!		116.67	83.34	113.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408766.16	0.98	442436.88	92.4	60 - 125		404558.84	409216.75	412522.84
45 Sc # 1	440402.41	11.14	456299.72	96.5	60 - 125		412323.25	411853.00	497031.03
45 Sc # 3	716448.38	0.37	765061.25	93.6	60 - 125		717310.38	713495.00	718539.69
74 Ge # 1	149627.20	8.20	153441.28	97.5	60 - 125		142901.86	142190.39	163789.34
74 Ge # 2	43507.68	0.68	47804.94	91.0	60 - 125		43471.68	43817.99	43233.35
74 Ge # 3	213224.95	0.97	224564.78	95.0	60 - 125		210912.91	213866.38	214895.56
89 Y # 3	1267113.40	0.48	1302847.50	97.3	60 - 125		1265905.30	1261758.90	1273676.10
115 In # 3	1308589.10	1.11	1366177.60	95.8	60 - 125		1294753.30	1307194.60	1323819.60
159 Tb # 3	1899013.10	1.02	2052817.90	92.5	60 - 125		1883175.00	1893213.80	1920650.80
209 Bi # 3	1213304.90	0.95	1405468.50	86.3	60 - 125		1202188.60	1225298.50	1212427.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\293SMPL.D\293SMPL.D#
 Date Acquired: Aug 25 2014 10:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 1b2 680-345535_2-b
 Misc Info: 3010 1/5
 Vial Number: 2404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	4.601E-005	4.601E-005	ug/l	2349.50	100.00		0.00	0.00	3.33
11 B #3	1.059	1.059	ug/l	2.90	1800.00		3693.76	3753.80	3750.46
23 Na #1	13160	13160	ug/l	0.35	81000.00		42220740.00	42117172.00	41999012.00
24 Mg #1	0.5863	0.5863	ug/l	7.50	81000.00		2426.90	2246.87	2276.86
27 Al #1	1.286	1.286	ug/l	3.36	81000.00		4820.72	5057.49	4944.11
39 K #2	-6.819	-6.819	ug/l	37.87	81000.00		9792.84	9499.29	10189.80
40 Ca #1	6.14	6.14	ug/l	0.18	81000.00		61674.43	61751.33	61650.88
47 Ti #3	-0.006458	-0.006458	ug/l	161.81	1620.00		93.34	110.00	93.34
51 V #2	0.114	0.114	ug/l	13.07	1800.00		474.46	531.12	476.68
52 Cr #2	0.04687	0.04687	ug/l	12.76	1800.00		420.01	442.23	471.12
55 Mn #3	0.01827	0.01827	ug/l	13.57	1800.00		1700.12	1776.80	1786.80
56 Fe #1	1.073	1.073	ug/l	3.82	81000.00		12337.76	12851.47	12981.53
59 Co #3	0.005018	0.005018	ug/l	36.11	1800.00		160.01	110.00	140.00
60 Ni #2	0.06019	0.06019	ug/l	12.15	1800.00		106.67	107.78	124.45
63 Cu #2	-0.03514	-0.03514	ug/l	41.49	1800.00		316.71	290.01	278.89
66 Zn #3	0.2333	0.2333	ug/l	9.68	1800.00		1086.73	1036.73	1130.07
75 As #2	0.04572	0.04572	ug/l	14.98	100.00		28.00	27.33	30.00
78 Se #1	-0.04348	-0.04348	ug/l	11.85	100.00		10.00	8.67	7.33
88 Sr #3	0.009885	0.009885	ug/l	9.52	1800.00		373.35	403.35	420.02
95 Mo #3	-0.01213	-0.01213	ug/l	6.62	1800.00		63.34	70.00	70.00
107 Ag #3	-0.004172	-0.004172	ug/l	16.43	100.00		83.34	76.67	70.00
111 Cd #3	-0.0003925	-0.0003925	ug/l	405.86	100.00		3.32	3.32	9.98
118 Sn #3	0.1488	0.1488	ug/l	8.45	1800.00		1896.83	1740.14	1816.82
121 Sb #3	0.005362	0.005362	ug/l	68.17	100.00		116.67	53.34	93.34
137 Ba #3	0.03893	0.03893	ug/l	18.81	1800.00		220.01	190.01	166.67
202 Hg #3	-0.01755	-0.01755	ug/l	7.91	5.00		70.67	63.67	66.67
205 Tl #3	-0.0001889	-0.0001889	ug/l	694.55	20.00		213.34	150.01	193.34
208 Pb #3	-0.01353	-0.01353	ug/l	7.69	1800.00		926.71	900.04	873.37
232 Th #3	0.06192	0.06192	ug/l	2.63	#VALUE!		2490.29	2530.29	2656.97
238 U #3	0.000898	0.000898	ug/l	92.60	#VALUE!		93.34	30.00	63.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	410094.75	0.44	442436.88	92.7	60 - 125		410787.03	408035.09	411462.19
45 Sc #1	415050.03	0.09	456299.72	91.0	60 - 125		414628.00	415217.28	415304.81
45 Sc #3	721736.50	3.03	765061.25	94.3	60 - 125		706310.00	712135.63	746763.81
74 Ge #1	144151.38	0.75	153441.28	93.9	60 - 125		145321.64	143203.91	143928.58
74 Ge #2	42430.59	7.76	47804.94	88.8	60 - 125		38640.06	44047.42	44604.31
74 Ge #3	214444.72	0.14	224564.78	95.5	60 - 125		214198.81	214355.28	214780.08
89 Y #3	1267079.90	0.57	1302847.50	97.3	60 - 125		1268025.90	1259447.10	1273766.60
115 In #3	1327206.50	1.13	1366177.60	97.1	60 - 125		1310825.60	1330433.80	1340360.00
159 Tb #3	1916355.40	1.20	2052817.90	93.4	60 - 125		1889918.80	1928193.50	1930953.90
209 Bi #3	1241992.80	1.07	1405468.50	88.4	60 - 125		1229090.50	1241199.00	1255688.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\294SMPL.D\294SMPL.D#
 Date Acquired: Aug 25 2014 10:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 1b2 680-345378_2-b
 Misc Info: 3010 1/5
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	5.313E-005	5.313E-005	ug/l	2059.10	100.00		3.33	0.00	0.00
11 B # 3	0.7125	0.7125	ug/l	11.70	1800.00		3333.70	3227.01	3140.33
23 Na # 1	17350	17350	ug/l	0.17	81000.00		55492712.00	55237704.00	55548096.00
24 Mg # 1	0.5635	0.5635	ug/l	19.41	81000.00		2280.20	2496.90	2013.49
27 Al # 1	1.313	1.313	ug/l	6.17	81000.00		5104.16	5154.18	4764.05
39 K # 2	-6.79	-6.79	ug/l	4.70	81000.00		10223.06	10236.40	10099.65
40 Ca # 1	8.64	8.64	ug/l	1.01	81000.00		77284.71	76243.75	77448.83
47 Ti # 3	-0.02102	-0.02102	ug/l	8.94	1620.00		80.00	83.34	83.34
51 V # 2	0.1059	0.1059	ug/l	3.53	1800.00		493.34	477.79	500.01
52 Cr # 2	0.04209	0.04209	ug/l	10.16	1800.00		432.23	444.45	456.68
55 Mn # 3	0.0252	0.0252	ug/l	25.84	1800.00		1796.81	2000.17	1770.13
56 Fe # 1	0.6756	0.6756	ug/l	2.84	81000.00		9609.39	9602.76	9345.92
59 Co # 3	-0.000914	-0.000914	ug/l	93.96	1800.00		60.00	40.00	60.00
60 Ni # 2	0.05141	0.05141	ug/l	16.01	1800.00		96.67	108.89	114.45
63 Cu # 2	0.1607	0.1607	ug/l	6.18	1800.00		923.36	943.37	887.81
66 Zn # 3	0.3663	0.3663	ug/l	5.28	1800.00		1300.08	1386.77	1316.75
75 As # 2	0.0521	0.0521	ug/l	13.62	100.00		31.00	34.00	29.67
78 Se # 1	-0.04667	-0.04667	ug/l	11.49	100.00		9.00	6.33	8.00
88 Sr # 3	0.0167	0.0167	ug/l	9.50	1800.00		583.36	593.36	520.02
95 Mo # 3	-0.01441	-0.01441	ug/l	3.11	1800.00		56.67	56.67	60.00
107 Ag # 3	-0.004773	-0.004773	ug/l	41.99	100.00		46.67	70.00	90.00
111 Cd # 3	-0.0003388	-0.0003388	ug/l	246.25	100.00		6.65	6.65	3.32
118 Sn # 3	0.1283	0.1283	ug/l	12.35	1800.00		1540.11	1600.12	1770.14
121 Sb # 3	0.00563	0.00563	ug/l	54.73	100.00		120.00	66.67	80.00
137 Ba # 3	0.04717	0.04717	ug/l	10.61	1800.00		236.68	226.68	200.01
202 Hg # 3	-0.02043	-0.02043	ug/l	9.26	5.00		56.33	64.33	52.00
205 Tl # 3	-0.001756	-0.001756	ug/l	24.88	20.00		153.34	143.34	133.34
208 Pb # 3	-0.01118	-0.01118	ug/l	18.65	1800.00		1000.04	900.04	1013.38
232 Th # 3	0.03551	0.03551	ug/l	3.94	#VALUE!		1490.12	1556.80	1613.48
238 U # 3	-0.0001887	-0.0001887	ug/l	78.91	#VALUE!		16.67	16.67	26.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408171.25	0.74	442436.88	92.3	60 - 125		406818.97	406072.34	411622.41
45 Sc # 1	414631.28	0.18	456299.72	90.9	60 - 125		415286.13	413817.47	414790.25
45 Sc # 3	710206.38	0.05	765061.25	92.8	60 - 125		710598.19	709935.69	710085.31
74 Ge # 1	142493.14	0.39	153441.28	92.9	60 - 125		143129.02	142227.86	142122.56
74 Ge # 2	43769.81	0.52	47804.94	91.6	60 - 125		43969.52	43519.64	43820.27
74 Ge # 3	211438.92	0.76	224564.78	94.2	60 - 125		209614.81	212639.31	212062.67
89 Y # 3	1264407.10	0.83	1302847.50	97.0	60 - 125		1254627.50	1275506.90	1263086.90
115 In # 3	1304268.40	1.02	1366177.60	95.5	60 - 125		1312624.60	1288953.10	1311227.80
159 Tb # 3	1894055.60	1.39	2052817.90	92.3	60 - 125		1867935.40	1920486.00	1893745.40
209 Bi # 3	1222238.40	0.73	1405468.50	87.0	60 - 125		1212052.00	1225864.60	1228798.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\295SMPL.D\295SMPL.D#
 Date Acquired: Aug 25 2014 10:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104446-a-2-b
 Misc Info: 3010 1/5
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babha.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.005129	0.005129	ug/l	65.72	100.00		16.67	6.67	6.67
11 B # 3	20.8	20.8	ug/l	10.83	1800.00		30854.96	31208.77	30888.34
23 Na # 1	15010	15010	ug/l	13.00	81000.00		44251228.00	43938232.00	43775768.00
24 Mg # 1	249.6	249.6	ug/l	13.21	81000.00		517281.34	511593.63	510138.75
27 Al # 1	5.769	5.769	ug/l	16.58	81000.00		15850.23	15406.54	15009.56
39 K # 2	35.89	35.89	ug/l	1.48	81000.00		24192.65	23715.53	24232.76
40 Ca # 1	5082	5082	ug/l	13.37	81000.00		28927922.00	28816092.00	28253946.00
47 Ti # 3	-0.0004487	-0.0004487	ug/l	3207.00	1620.00		113.34	126.67	76.67
51 V # 2	0.09848	0.09848	ug/l	8.55	1800.00		447.79	485.57	478.90
52 Cr # 2	0.09417	0.09417	ug/l	9.99	1800.00		571.13	618.90	620.02
55 Mn # 3	42.14	42.14	ug/l	11.33	1800.00		764978.88	755499.25	778407.06
56 Fe # 1	2026	2026	ug/l	13.62	81000.00		15084671.00	14930856.00	14689980.00
59 Co # 3	0.6902	0.6902	ug/l	11.94	1800.00		9349.27	9469.34	9829.55
60 Ni # 2	9.893	9.893	ug/l	0.79	1800.00		11223.49	11319.10	11336.86
63 Cu # 2	0.0777	0.0777	ug/l	10.38	1800.00		682.24	627.80	664.46
66 Zn # 3	127.2	127.2	ug/l	11.05	1800.00		254856.95	251503.69	257673.41
75 As # 2	0.1182	0.1182	ug/l	18.64	100.00		45.33	59.00	56.00
78 Se # 1	-0.04061	-0.04061	ug/l	11.27	100.00		7.33	8.67	10.67
88 Sr # 3	4.139	4.139	ug/l	13.98	1800.00		101730.59	99270.09	101157.50
95 Mo # 3	0.1585	0.1585	ug/l	15.83	1800.00		746.71	690.04	696.70
107 Ag # 3	-0.004291	-0.004291	ug/l	28.90	100.00		66.67	100.00	56.67
111 Cd # 3	0.003239	0.003239	ug/l	103.98	100.00		9.84	9.85	19.85
118 Sn # 3	0.134	0.134	ug/l	32.26	1800.00		1683.46	1510.11	1716.81
121 Sb # 3	0.1795	0.1795	ug/l	13.01	100.00		1663.47	1550.11	1543.45
137 Ba # 3	13.22	13.22	ug/l	14.64	1800.00		50729.69	49154.79	51067.51
202 Hg # 3	-0.02044	-0.02044	ug/l	11.69	5.00		64.33	55.33	52.67
205 Tl # 3	-0.00336	-0.00336	ug/l	9.99	20.00		106.67	103.34	96.67
208 Pb # 3	0.07961	0.07961	ug/l	24.88	1800.00		3950.32	4017.01	4373.73
232 Th # 3	0.02895	0.02895	ug/l	8.68	#VALUE!		1413.45	1386.77	1170.08
238 U # 3	0.00215	0.00215	ug/l	18.77	#VALUE!		106.67	106.67	113.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	409468.44	10.76	442436.88	92.5	60 - 125		402548.00	456593.31	369263.97
45 Sc # 1	384268.66	11.64	456299.72	84.2	60 - 125		333118.78	403813.94	415873.25
45 Sc # 3	716327.00	13.16	765061.25	93.6	60 - 125		703326.31	816400.94	629253.75
74 Ge # 1	136123.00	9.86	153441.28	88.7	60 - 125		120628.54	144020.03	143720.42
74 Ge # 2	43696.59	0.49	47804.94	91.4	60 - 125		43767.87	43456.01	43865.89
74 Ge # 3	213393.23	9.98	224564.78	95.0	60 - 125		210561.56	235970.95	193647.22
89 Y # 3	1266147.10	13.18	1302847.50	97.2	60 - 125		1252079.10	1439618.50	1106744.00
115 In # 3	1292456.10	12.71	1366177.60	94.6	60 - 125		1292747.80	1456653.10	1127967.50
159 Tb # 3	1904163.90	11.35	2052817.90	92.8	60 - 125		1913240.10	2115639.80	1683612.00
209 Bi # 3	1233943.80	10.93	1405468.50	87.8	60 - 125		1222058.40	1374419.60	1105353.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\296SMPL.D\296SMPL.D#
 Date Acquired: Aug 25 2014 10:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104446-a-2-bSD
 Misc Info: 3010 1/25
 Vial Number: 2407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006625	0.001325	ug/l	248.75	100.00		0.00	0.00	10.00
11 B # 3	21.41	4.282	ug/l	1.09	1800.00		8021.84	8175.23	8081.89
23 Na # 1	14290	2858	ug/l	12.12	81000.00		8571944.00	8476262.00	8348844.00
24 Mg # 1	239.35	47.87	ug/l	11.86	81000.00		100447.34	99409.03	98466.91
27 Al # 1	8.99	1.798	ug/l	15.61	81000.00		5864.40	5714.32	5797.69
39 K # 2	-8.205	-1.641	ug/l	33.77	81000.00		12080.85	12341.02	11987.49
40 Ca # 1	4857.5	971.5	ug/l	12.48	81000.00		5601952.50	5537246.50	5397786.00
47 Ti # 3	-0.2618	-0.05236	ug/l	31.61	1620.00		30.00	56.67	63.34
51 V # 2	0.029165	0.005833	ug/l	78.38	1800.00		254.45	240.00	232.23
52 Cr # 2	0.014275	0.002855	ug/l	145.25	1800.00		326.67	321.12	346.67
55 Mn # 3	40.015	8.003	ug/l	0.66	1800.00		148930.41	148597.44	150530.69
56 Fe # 1	1967	393.4	ug/l	12.15	81000.00		2947175.30	2907987.50	2864428.00
59 Co # 3	0.613	0.1226	ug/l	3.87	1800.00		1706.80	1816.81	1826.81
60 Ni # 2	10.03	2.006	ug/l	5.17	1800.00		2505.75	2376.84	2275.72
63 Cu # 2	0.35255	0.07051	ug/l	27.32	1800.00		578.90	684.46	691.13
66 Zn # 3	126.9	25.38	ug/l	0.85	1800.00		52638.98	51753.44	52315.14
75 As # 2	0.06695	0.01339	ug/l	35.38	100.00		20.33	19.67	17.33
78 Se # 1	-0.2388	-0.04776	ug/l	19.56	100.00		8.67	6.67	6.00
88 Sr # 3	3.9715	0.7943	ug/l	0.70	1800.00		19554.37	20218.51	19771.29
95 Mo # 3	0.06515	0.01303	ug/l	54.01	1800.00		136.67	173.34	190.01
107 Ag # 3	-0.03505	-0.00701	ug/l	15.09	100.00		56.67	46.67	33.33
111 Cd # 3	-0.001922	-0.0003844	ug/l	560.87	100.00		-0.03	9.96	6.63
118 Sn # 3	0.40095	0.08019	ug/l	8.76	1800.00		1316.75	1346.76	1256.75
121 Sb # 3	0.1714	0.03428	ug/l	12.89	100.00		303.35	360.02	376.68
137 Ba # 3	12.25	2.45	ug/l	1.92	1800.00		9599.69	9836.46	9769.75
202 Hg # 3	-0.0839	-0.01678	ug/l	15.63	5.00		75.34	60.33	71.67
205 Tl # 3	-0.022335	-0.004467	ug/l	20.99	20.00		86.67	46.67	90.00
208 Pb # 3	-0.014045	-0.002809	ug/l	94.09	1800.00		1223.39	1216.72	1383.40
232 Th # 3	0.03044	0.006088	ug/l	14.65	#VALUE!		480.02	483.36	543.36
238 U # 3	-8.9E-005	-1.78E-005	ug/l	2586.70	#VALUE!		26.67	46.67	10.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	403457.63	0.42	442436.88	91.2	60 - 125		401590.72	403881.84	404900.31
45 Sc # 1	384583.63	10.21	456299.72	84.3	60 - 125		339921.97	400192.91	413636.03
45 Sc # 3	716744.81	1.74	765061.25	93.7	60 - 125		708379.13	731078.56	710776.88
74 Ge # 1	137862.98	10.10	153441.28	89.8	60 - 125		121798.10	145378.75	146412.11
74 Ge # 2	44776.98	0.24	47804.94	93.7	60 - 125		44658.92	44810.38	44861.63
74 Ge # 3	215674.20	0.04	224564.78	96.0	60 - 125		215666.14	215599.28	215757.20
89 Y # 3	1276029.50	1.05	1302847.50	97.9	60 - 125		1262734.10	1289519.60	1275834.80
115 In # 3	1327722.50	0.73	1366177.60	97.2	60 - 125		1335013.90	1316702.30	1331451.30
159 Tb # 3	1909219.40	0.34	2052817.90	93.0	60 - 125		1901881.60	1913995.00	1911781.40
209 Bi # 3	1283037.80	0.28	1405468.50	91.3	60 - 125		1280455.50	1281544.80	1287112.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\297SMPL.D\297SMPL.D#
 Date Acquired: Aug 25 2014 10:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104446-a-2-bPDS
 Misc Info: 3010 1/5
 Vial Number: 2408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	18.86	18.86	ug/l	0.49	100.00		33145.12	33231.95	33562.47
11 B # 3	58.34	58.34	ug/l	1.70	1800.00		84619.91	82922.52	82135.51
23 Na # 1	14540	14540	ug/l	0.29	81000.00		48146900.00	48255716.00	48128952.00
24 Mg # 1	2182	2182	ug/l	0.59	81000.00		5062667.50	5095171.00	5032579.50
27 Al # 1	209.5	209.5	ug/l	0.73	81000.00		579871.00	574099.94	581622.19
39 K # 2	1962	1962	ug/l	0.76	81000.00		660688.56	657750.75	663393.25
40 Ca # 1	6246	6246	ug/l	0.67	81000.00		40003688.00	39531148.00	39988096.00
47 Ti # 3	19.63	19.63	ug/l	1.56	1620.00		20831.97	21399.32	20861.98
51 V # 2	19.38	19.38	ug/l	0.08	1800.00		49929.56	50223.73	49984.18
52 Cr # 2	19.24	19.24	ug/l	1.15	1800.00		59851.74	59974.50	60898.31
55 Mn # 3	237	237	ug/l	0.23	1800.00		4357264.00	4394658.00	4419536.00
56 Fe # 1	3733	3733	ug/l	0.52	81000.00		30970370.00	31186572.00	31047450.00
59 Co # 3	19.61	19.61	ug/l	0.03	1800.00		273064.41	275960.84	276227.66
60 Ni # 2	29.06	29.06	ug/l	0.56	1800.00		33757.38	33619.38	33435.63
63 Cu # 2	19.19	19.19	ug/l	1.33	1800.00		60965.54	60663.27	61898.57
66 Zn # 3	136.9	136.9	ug/l	0.27	1800.00		278584.59	280091.00	280416.78
75 As # 2	19.26	19.26	ug/l	0.57	100.00		6464.82	6541.52	6536.85
78 Se # 1	18.97	18.97	ug/l	0.41	100.00		4889.00	4867.66	4848.32
88 Sr # 3	22.21	22.21	ug/l	0.54	1800.00		547064.38	546171.56	545371.75
95 Mo # 3	19.45	19.45	ug/l	0.78	1800.00		75604.31	75262.56	75108.69
107 Ag # 3	18.28	18.28	ug/l	0.33	100.00		197652.13	196972.16	198748.72
111 Cd # 3	18.61	18.61	ug/l	0.89	100.00		43748.68	43210.89	43481.62
118 Sn # 3	19.11	19.11	ug/l	0.75	1800.00		140612.44	141804.98	140568.22
121 Sb # 3	18.79	18.79	ug/l	1.26	100.00		166328.63	166112.00	163902.41
137 Ba # 3	31.33	31.33	ug/l	0.40	1800.00		120974.57	122025.24	123022.46
202 Hg # 3	0.8656	0.8656	ug/l	0.80	5.00		2780.25	2774.25	2783.25
205 Tl # 3	3.574	3.574	ug/l	1.25	20.00		92489.01	94293.11	92496.45
208 Pb # 3	18.23	18.23	ug/l	0.47	1800.00		642788.00	649457.19	647546.06
232 Th # 3	19.58	19.58	ug/l	0.38	#VALUE!		706953.31	718268.06	721928.88
238 U # 3	18.7	18.7	ug/l	0.27	#VALUE!		706171.94	713295.06	715153.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408327.84	0.18	442436.88	92.3	60 - 125		407997.50	407795.09	409190.94
45 Sc # 1	430105.81	0.24	456299.72	94.3	60 - 125		431228.72	429892.00	429196.75
45 Sc # 3	724314.13	0.23	765061.25	94.7	60 - 125		722782.69	724062.50	726097.31
74 Ge # 1	147357.66	0.28	153441.28	96.0	60 - 125		147726.67	146906.78	147439.47
74 Ge # 2	44390.81	0.34	47804.94	92.9	60 - 125		44309.09	44565.33	44297.99
74 Ge # 3	216125.14	0.61	224564.78	96.2	60 - 125		214598.66	216759.97	217016.80
89 Y # 3	1265710.80	0.66	1302847.50	97.1	60 - 125		1270004.00	1271001.50	1256126.50
115 In # 3	1306133.40	0.46	1366177.60	95.6	60 - 125		1300857.10	1304878.40	1312664.80
159 Tb # 3	1919990.00	0.77	2052817.90	93.5	60 - 125		1904073.80	1922626.40	1933269.80
209 Bi # 3	1222161.00	0.85	1405468.50	87.0	60 - 125		1210226.10	1228880.10	1227376.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\298SMPL.D\298SMPL.D#
 Date Acquired: Aug 25 2014 10:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104446-a-2-c ms
 Misc Info: 3010 1/5
 Vial Number: 2409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	2.05	2.05	ug/l	1.90	100.00		14408.98	14192.07	14385.57
11 B #3	6.978	6.978	ug/l	0.70	1800.00		47568.67	47464.80	46579.44
23 Na #1	2977	2977	ug/l	1.50	81000.00		38449128.00	37878628.00	38196388.00
24 Mg #1	274.8	274.8	ug/l	0.68	81000.00		2451639.30	2455794.80	2451065.50
27 Al #1	23.9	23.9	ug/l	1.29	81000.00		260928.02	257957.23	257529.53
39 K #2	192.8	192.8	ug/l	1.02	81000.00		296179.25	295464.47	297131.50
40 Ca #1	1162	1162	ug/l	0.84	81000.00		28603546.00	28534622.00	28497972.00
47 Ti #3	2.107	2.107	ug/l	2.74	1620.00		8982.39	8985.72	9259.17
51 V #2	2.102	2.102	ug/l	1.23	1800.00		21828.35	21750.49	22021.90
52 Cr #2	2.083	2.083	ug/l	0.44	1800.00		26361.97	26542.23	26446.58
55 Mn #3	31.77	31.77	ug/l	0.36	1800.00		2244237.30	2246336.80	2243963.00
56 Fe #1	602.8	602.8	ug/l	0.77	81000.00		19311204.00	19285984.00	19237560.00
59 Co #3	2.307	2.307	ug/l	1.37	1800.00		123998.42	121797.91	124298.16
60 Ni #2	4.149	4.149	ug/l	1.51	1800.00		18564.95	18830.77	19030.95
63 Cu #2	2.054	2.054	ug/l	1.04	1800.00		26644.84	27048.76	27066.51
66 Zn #3	28.11	28.11	ug/l	0.25	1800.00		219830.91	220440.25	220917.47
75 As #2	2.134	2.134	ug/l	1.43	100.00		2893.90	2837.23	2830.23
78 Se #1	2.072	2.072	ug/l	1.95	100.00		2116.80	2120.13	2182.80
88 Sr #3	2.949	2.949	ug/l	0.89	1800.00		273690.06	275429.22	276245.63
95 Mo #3	2.24	2.24	ug/l	1.22	1800.00		33308.50	32710.68	33488.75
107 Ag #3	2.655	2.655	ug/l	0.70	100.00		108383.13	109819.06	108641.35
111 Cd #3	2.118	2.118	ug/l	0.97	100.00		18896.71	18656.55	18626.34
118 Sn #3	2.116	2.116	ug/l	0.53	1800.00		60904.02	61355.51	61760.33
121 Sb #3	2.164	2.164	ug/l	0.40	100.00		72224.41	72260.91	71959.87
137 Ba #3	4.835	4.835	ug/l	1.08	1800.00		71835.33	70456.09	71534.00
202 Hg #3	0.3551	0.3551	ug/l	0.56	5.00		4545.65	4536.32	4500.64
205 Tl #3	0.4112	0.4112	ug/l	1.24	20.00		40495.74	40265.24	41207.59
208 Pb #3	2.104	2.104	ug/l	0.52	1800.00		282737.41	283277.28	284481.91
232 Th #3	2.264	2.264	ug/l	0.28	#VALUE!		315246.63	315930.50	316033.97
238 U #3	2.128	2.128	ug/l	0.42	#VALUE!		308623.19	308722.88	307782.72

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	1615359.80	1.21	442436.88	365.1	60 - 125	IS I	1618440.00	1633220.60	1594418.80
45 Sc #1	1651785.90	0.79	456299.72	362.0	60 - 125	IS I	1644115.10	1666763.00	1644479.60
45 Sc #3	2795389.50	0.93	765061.25	365.4	60 - 125	IS I	2821420.80	2795495.80	2769252.00
74 Ge #1	573886.50	0.14	153441.28	374.0	60 - 125	IS I	574409.44	574255.38	572994.63
74 Ge #2	172498.77	0.58	47804.94	360.8	60 - 125	IS I	172260.31	173589.55	171646.44
74 Ge #3	822468.56	0.39	224564.78	366.3	60 - 125	IS I	818827.25	824957.25	823621.25
89 Y #3	4791827.00	0.45	1302847.50	367.8	60 - 125	IS I	4808315.00	4799572.00	4767595.00
115 In #3	4935666.00	0.19	1366177.60	361.3	60 - 125	IS I	4926046.50	4935674.50	4945277.00
159 Tb #3	7175491.50	0.29	2052817.90	349.5	60 - 125	IS I	7197771.50	7157082.50	7171621.50
209 Bi #3	4652319.00	0.27	1405468.50	331.0	60 - 125	IS I	4652262.00	4640002.00	4664693.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 10 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\299SMPL.D\299SMPL.D#
 Date Acquired: Aug 25 2014 10:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104446-a-2-d msd
 Misc Info: 3010 1/5
 Vial Number: 2410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babha.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.019	2.019	ug/l	0.34	100.00		13718.43	13775.17	13621.72
11 B # 3	6.806	6.806	ug/l	3.03	1800.00		44678.17	44367.81	45693.82
23 Na # 1	2898	2898	ug/l	0.43	81000.00		35755100.00	35806680.00	36051616.00
24 Mg # 1	268.1	268.1	ug/l	1.45	81000.00		2281693.30	2296583.00	2349356.80
27 Al # 1	23.42	23.42	ug/l	0.92	81000.00		245229.31	242953.95	246525.41
39 K # 2	190.6	190.6	ug/l	1.04	81000.00		282500.66	277566.31	279483.03
40 Ca # 1	1135	1135	ug/l	0.51	81000.00		26918342.00	26814670.00	26994930.00
47 Ti # 3	2.115	2.115	ug/l	2.06	1620.00		8698.92	8372.11	8742.28
51 V # 2	2.081	2.081	ug/l	0.55	1800.00		20769.35	20619.22	20579.20
52 Cr # 2	2.072	2.072	ug/l	0.97	1800.00		25356.17	24976.74	24952.23
55 Mn # 3	31.2	31.2	ug/l	0.18	1800.00		2112084.30	2112257.80	2108017.50
56 Fe # 1	591.4	591.4	ug/l	0.37	81000.00		18274118.00	18247198.00	18237030.00
59 Co # 3	2.249	2.249	ug/l	0.36	1800.00		115142.23	115498.46	114830.52
60 Ni # 2	4.14	4.14	ug/l	0.64	1800.00		18004.39	17883.14	17799.75
63 Cu # 2	2.017	2.017	ug/l	1.03	1800.00		25454.22	24948.04	25276.25
66 Zn # 3	27.61	27.61	ug/l	0.92	1800.00		209222.25	207081.92	205551.81
75 As # 2	2.106	2.106	ug/l	0.94	100.00		2707.88	2689.20	2662.20
78 Se # 1	2.038	2.038	ug/l	2.59	100.00		2057.46	1952.44	2037.79
88 Sr # 3	2.905	2.905	ug/l	0.88	1800.00		257665.33	258071.97	258919.78
95 Mo # 3	2.184	2.184	ug/l	1.74	1800.00		31839.18	30466.71	30793.93
107 Ag # 3	2.814	2.814	ug/l	1.25	100.00		111193.60	112408.29	108661.94
111 Cd # 3	2.091	2.091	ug/l	0.96	100.00		17805.91	17669.28	17719.30
118 Sn # 3	2.077	2.077	ug/l	1.35	1800.00		58412.14	57101.22	57880.43
121 Sb # 3	2.105	2.105	ug/l	0.83	100.00		67425.09	67518.77	66989.74
137 Ba # 3	4.791	4.791	ug/l	0.90	1800.00		68096.77	67460.94	67644.84
202 Hg # 3	0.3532	0.3532	ug/l	0.85	5.00		4332.93	4329.26	4294.92
205 Tl # 3	0.4046	0.4046	ug/l	1.12	20.00		38547.38	38557.50	37972.76
208 Pb # 3	2.062	2.062	ug/l	0.73	1800.00		267072.59	266953.22	265249.00
232 Th # 3	2.21	2.21	ug/l	0.79	#VALUE!		299743.09	293909.78	291812.19
238 U # 3	2.104	2.104	ug/l	0.21	#VALUE!		294522.16	291911.31	289471.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	1568595.40	0.90	442436.88	354.5	60 - 125	IS I	1570836.60	1581487.90	1553461.60
45 Sc # 1	1594032.40	0.28	456299.72	349.3	60 - 125	IS I	1589119.80	1597823.30	1595154.00
45 Sc # 3	2640750.80	0.41	765061.25	345.2	60 - 125	IS I	2648639.50	2628448.80	2645164.00
74 Ge # 1	549359.69	0.28	153441.28	358.0	60 - 125	IS I	550582.56	547622.44	549874.06
74 Ge # 2	164485.03	0.10	47804.94	344.1	60 - 125	IS I	164464.91	164328.64	164661.58
74 Ge # 3	787493.38	0.07	224564.78	350.7	60 - 125	IS I	787616.56	786854.44	788009.06
89 Y # 3	4566263.50	0.63	1302847.50	350.5	60 - 125	IS I	4584709.00	4581008.50	4533073.50
115 In # 3	4734343.50	1.13	1366177.60	346.5	60 - 125	IS I	4786251.00	4737187.00	4679593.50
159 Tb # 3	6878223.00	0.61	2052817.90	335.1	60 - 125	IS I	6919369.50	6834972.50	6880327.00
209 Bi # 3	4454729.50	0.66	1405468.50	317.0	60 - 125	IS I	4483092.00	4456465.00	4424631.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 10 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\300_CCV.D\300_CCV.D#
 Date Acquired: Aug 25 2014 10:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.63 ug/l	0.75	50.00	89.5 - 110		83908.93	83406.69	85057.02
11 B	94.95 ug/l	0.85	100.00	89.5 - 110		130371.45	130463.05	132956.25
23 Na	5127 ug/l	0.35	5000.00	89.5 - 110		16723946.00	16604416.00	16483903.00
24 Mg	5076 ug/l	0.32	5000.00	89.5 - 110		11502896.00	11509825.00	11393654.00
27 Al	519.3 ug/l	0.37	500.00	89.5 - 110		1396433.50	1391029.30	1394690.60
39 K	4906 ug/l	0.88	5000.00	89.5 - 110		1646460.40	1642463.80	1629225.10
40 Ca	5225 ug/l	0.09	5000.00	89.5 - 110		32546692.00	32465152.00	32359582.00
47 Ti	50.69 ug/l	1.10	50.00	89.5 - 110		53095.51	53757.52	53082.18
51 V	48.71 ug/l	0.18	50.00	89.5 - 110		125411.09	126259.52	126110.67
52 Cr	48.39 ug/l	0.19	50.00	89.5 - 110		151239.31	151859.02	151749.06
55 Mn	500.8 ug/l	0.86	500.00	89.5 - 110		9200952.00	9237279.00	9332726.00
56 Fe	5377 ug/l	0.59	5000.00	89.5 - 110		43438008.00	43763576.00	43495672.00
59 Co	48.49 ug/l	1.15	50.00	89.5 - 110		675867.38	680842.38	679367.00
60 Ni	49.61 ug/l	0.37	50.00	89.5 - 110		57534.40	57640.23	57516.47
63 Cu	48.28 ug/l	0.49	50.00	89.5 - 110		153540.09	154663.59	153568.88
66 Zn	48.63 ug/l	1.50	50.00	89.5 - 110		98623.94	100165.50	99742.62
75 As	49.74 ug/l	0.21	50.00	89.5 - 110		16827.39	16894.46	16879.45
78 Se	50.37 ug/l	0.74	50.00	89.5 - 110		12771.15	12853.54	12634.39
88 Sr	48.14 ug/l	0.86	50.00	89.5 - 110		1177205.80	1180655.30	1191551.30
95 Mo	49.52 ug/l	1.61	50.00	89.5 - 110		192328.73	188435.55	191745.94
107 Ag	47.78 ug/l	1.23	50.00	89.5 - 110		517502.66	511090.03	515415.47
111 Cd	48.55 ug/l	0.85	50.00	89.5 - 110		113129.20	112532.93	113327.54
118 Sn	48.8 ug/l	0.64	50.00	89.5 - 110		356925.56	356558.31	359172.53
121 Sb	48.33 ug/l	0.63	50.00	89.5 - 110		423188.13	422830.50	425257.78
137 Ba	48.74 ug/l	1.70	50.00	89.5 - 110		191143.83	188308.67	187504.95
202 Hg	2.581 ug/l	0.84	2.50	89.5 - 110		7977.01	7884.96	7927.65
205 Tl	9.42 ug/l	0.49	10.00	89.5 - 110		241533.13	240703.25	242063.30
208 Pb	47.21 ug/l	0.31	50.00	89.5 - 110		1647412.00	1646692.40	1650680.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	399857.31	0.28	442436.88	90.4	60 - 125		399222.13	399217.19	401132.66
45 Sc	418812.69	0.38	456299.72	91.8	60 - 125		420369.94	418856.16	417211.97
45 Sc	713397.25	0.42	765061.25	93.2	60 - 125		713029.25	710585.50	716576.88
74 Ge	145755.08	0.72	153441.28	95.0	60 - 125		146825.77	145701.39	144738.13
74 Ge	44568.75	0.35	47804.94	93.2	60 - 125		44397.19	44603.22	44705.83
74 Ge	215657.38	0.88	224564.78	96.0	60 - 125		216336.77	213502.25	217133.14
89 Y	1264799.60	0.24	1302847.50	97.1	60 - 125		1266058.40	1267007.90	1261332.60
115 In	1300796.50	0.68	1366177.60	95.2	60 - 125		1290520.50	1305660.50	1306208.30
159 Tb	1891896.60	0.25	2052817.90	92.2	60 - 125		1887500.00	1896952.00	1891237.90
209 Bi	1237686.30	0.35	1405468.50	88.1	60 - 125		1232709.40	1239800.90	1240548.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\301_CCB.D\301_CCB.D#
 Date Acquired: Aug 25 2014 11:03 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.005352	0.005352	ug/l	37.28	#VALUE!		6.67	10.00	13.33
11 B #3	1.801	1.801	ug/l	4.94	#VALUE!		4503.99	4447.30	4650.65
23 Na #1	-10.47	-10.47	ug/l	3.75	#VALUE!		53945.64	53858.98	52087.73
24 Mg #1	0.1633	0.1633	ug/l	20.66	#VALUE!		1360.08	1376.75	1246.74
27 Al #1	0.03422	0.03422	ug/l	90.18	#VALUE!		1610.11	1603.45	1476.77
39 K #2	-9.783	-9.783	ug/l	2.52	#VALUE!		9022.39	9192.44	9045.74
40 Ca #1	0.6673	0.6673	ug/l	18.07	#VALUE!		27807.56	26963.04	26732.80
47 Ti #3	-0.0664	-0.0664	ug/l	8.71	#VALUE!		30.00	30.00	40.00
51 V #2	-0.01767	-0.01767	ug/l	39.15	#VALUE!		176.67	191.11	156.67
52 Cr #2	-0.02158	-0.02158	ug/l	31.57	#VALUE!		267.78	240.00	228.89
55 Mn #3	0.01949	0.01949	ug/l	32.75	#VALUE!		1723.46	1600.11	1836.81
56 Fe #1	0.9175	0.9175	ug/l	3.85	#VALUE!		11247.00	11277.04	10836.75
59 Co #3	0.0006425	0.0006425	ug/l	81.98	#VALUE!		80.00	73.34	66.67
60 Ni #2	-0.001061	-0.001061	ug/l	394.63	#VALUE!		50.00	47.78	41.11
63 Cu #2	-0.04745	-0.04745	ug/l	9.88	#VALUE!		250.00	280.00	264.45
66 Zn #3	-0.04685	-0.04685	ug/l	39.77	#VALUE!		536.69	496.69	470.02
75 As #2	0.00395	0.00395	ug/l	126.20	#VALUE!		13.67	15.33	17.00
78 Se #1	-0.03665	-0.03665	ug/l	21.60	#VALUE!		12.33	8.67	9.67
88 Sr #3	0.0006446	0.0006446	ug/l	57.97	#VALUE!		173.34	156.67	170.01
95 Mo #3	0.02698	0.02698	ug/l	6.77	#VALUE!		210.01	223.34	210.01
107 Ag #3	-0.001427	-0.001427	ug/l	181.85	#VALUE!		130.00	103.34	76.67
111 Cd #3	0.006932	0.006932	ug/l	32.04	#VALUE!		23.29	16.62	26.62
118 Sn #3	0.1047	0.1047	ug/l	12.87	#VALUE!		1520.11	1453.43	1350.10
121 Sb #3	0.01978	0.01978	ug/l	12.55	#VALUE!		206.67	190.01	233.34
137 Ba #3	0.007106	0.007106	ug/l	54.76	#VALUE!		63.34	50.00	80.00
202 Hg #3	0.01607	0.01607	ug/l	39.21	#VALUE!		183.00	149.67	160.67
205 Tl #3	-0.001235	-0.001235	ug/l	47.77	#VALUE!		166.67	140.00	153.34
208 Pb #3	-0.02271	-0.02271	ug/l	12.32	#VALUE!		626.69	453.35	590.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	390129.56	0.33	442436.88	88.2	60 - 125		391234.06	390439.53	388715.09
45 Sc #1	402380.09	0.58	456299.72	88.2	60 - 125		399713.38	403972.66	403454.19
45 Sc #3	680295.94	0.04	765061.25	88.9	60 - 125		680343.25	680522.69	680021.81
74 Ge #1	142181.67	0.64	153441.28	92.7	60 - 125		141238.77	142256.53	143049.70
74 Ge #2	43175.37	0.25	47804.94	90.3	60 - 125		43051.79	43243.26	43231.07
74 Ge #3	207567.64	0.58	224564.78	92.4	60 - 125		206367.66	207550.88	208784.38
89 Y #3	1232041.10	0.22	1302847.50	94.6	60 - 125		1229202.80	1232470.80	1234450.30
115 In #3	1285048.80	0.94	1366177.60	94.1	60 - 125		1271089.80	1291606.00	1292450.30
159 Tb #3	1853852.90	1.00	2052817.90	90.3	60 - 125		1832720.60	1867165.80	1861671.90
209 Bi #3	1240136.60	2.04	1405468.50	88.2	60 - 125		1211382.10	1250347.80	1258679.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\302SMPL.D\302SMPL.D#
 Date Acquired: Aug 25 2014 11:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104457-a-2-b
 Misc Info: 3010 1/5
 Vial Number: 2411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002591	0.002591	ug/l	112.23	100.00		10.00	6.67	0.00
11 B # 3	16.56	16.56	ug/l	1.82	1800.00		25149.94	25430.46	24699.31
23 Na # 1	13730	13730	ug/l	0.81	81000.00		44230388.00	43975608.00	43998808.00
24 Mg # 1	1764	1764	ug/l	0.27	81000.00		3950250.00	4002273.30	3945681.50
27 Al # 1	1.841	1.841	ug/l	6.74	81000.00		6087.78	6801.97	6424.60
39 K # 2	45.8	45.8	ug/l	1.78	81000.00		27280.18	27280.26	27110.04
40 Ca # 1	5266	5266	ug/l	0.49	81000.00		32692060.00	32648646.00	32276640.00
47 Ti # 3	0.5423	0.5423	ug/l	7.11	1620.00		633.36	650.03	710.03
51 V # 2	0.3517	0.3517	ug/l	6.91	1800.00		1048.93	1137.83	1141.16
52 Cr # 2	0.08673	0.08673	ug/l	4.30	1800.00		572.24	578.90	587.79
55 Mn # 3	8.165	8.165	ug/l	0.36	1800.00		150139.80	150275.72	149277.11
56 Fe # 1	1.556	1.556	ug/l	5.21	81000.00		16170.72	17531.98	16287.51
59 Co # 3	0.1193	0.1193	ug/l	4.35	1800.00		1656.79	1680.13	1790.14
60 Ni # 2	0.6272	0.6272	ug/l	6.82	1800.00		711.13	774.47	793.36
63 Cu # 2	0.05555	0.05555	ug/l	2.85	1800.00		591.13	580.01	593.35
66 Zn # 3	1.858	1.858	ug/l	2.19	1800.00		4293.98	4263.93	4417.32
75 As # 2	3.075	3.075	ug/l	0.62	100.00		1041.37	1020.37	1040.37
78 Se # 1	-0.01051	-0.01051	ug/l	76.62	100.00		18.67	14.67	17.67
88 Sr # 3	9.988	9.988	ug/l	0.38	1800.00		246353.75	244651.34	244961.66
95 Mo # 3	0.04651	0.04651	ug/l	6.17	1800.00		300.01	280.01	293.34
107 Ag # 3	-0.002346	-0.002346	ug/l	66.88	100.00		113.34	83.34	86.67
111 Cd # 3	0.05096	0.05096	ug/l	18.38	100.00		139.94	99.94	133.27
118 Sn # 3	0.1357	0.1357	ug/l	4.33	1800.00		1683.47	1720.13	1636.80
121 Sb # 3	6.834	6.834	ug/l	1.09	100.00		60211.85	59556.26	59399.15
137 Ba # 3	2.24	2.24	ug/l	0.73	1800.00		8709.16	8639.10	8719.16
202 Hg # 3	-0.01302	-0.01302	ug/l	22.53	5.00		81.33	87.00	70.00
205 Tl # 3	-0.002592	-0.002592	ug/l	33.47	20.00		136.67	96.67	130.01
208 Pb # 3	3.765	3.765	ug/l	1.42	1800.00		132606.17	131095.20	132227.70
232 Th # 3	0.05813	0.05813	ug/l	8.40	#VALUE!		2376.93	2510.29	2193.57
238 U # 3	0.004461	0.004461	ug/l	18.25	#VALUE!		223.34	160.01	203.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406144.72	0.37	442436.88	91.8	60 - 125		404514.06	406483.38	407436.66
45 Sc # 1	416594.09	0.68	456299.72	91.3	60 - 125		416227.25	419600.47	413954.47
45 Sc # 3	703439.56	0.20	765061.25	91.9	60 - 125		704235.19	701829.63	704253.94
74 Ge # 1	144925.45	0.67	153441.28	94.5	60 - 125		146024.33	144588.38	144163.67
74 Ge # 2	43631.29	0.93	47804.94	91.3	60 - 125		44053.00	43246.66	43594.21
74 Ge # 3	212209.59	0.02	224564.78	94.5	60 - 125		212258.30	212177.09	212193.36
89 Y # 3	1263505.90	0.29	1302847.50	97.0	60 - 125		1265676.60	1265559.40	1259281.60
115 In # 3	1295736.60	0.37	1366177.60	94.8	60 - 125		1290158.40	1298389.40	1298662.10
159 Tb # 3	1881944.50	0.94	2052817.90	91.7	60 - 125		1861620.40	1891040.00	1893173.50
209 Bi # 3	1212735.90	0.93	1405468.50	86.3	60 - 125		1220099.30	1199772.50	1218336.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\303SMPL.D\303SMPL.D#
 Date Acquired: Aug 25 2014 11:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104457-a-1-b
 Misc Info: 3010 1/5
 Vial Number: 2412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006861	0.0006861	ug/l	319.20	100.00		6.67	0.00	0.00
11 B # 3	20.15	20.15	ug/l	2.31	1800.00		29903.50	30647.82	29693.14
23 Na # 1	13960	13960	ug/l	0.79	81000.00		44964652.00	44811448.00	44736316.00
24 Mg # 1	1589	1589	ug/l	1.31	81000.00		3603163.30	3560567.50	3551049.00
27 Al # 1	2.097	2.097	ug/l	1.70	81000.00		7174.86	7134.91	7054.85
39 K # 2	48.72	48.72	ug/l	4.62	81000.00		28685.72	28799.16	27453.89
40 Ca # 1	5079	5079	ug/l	1.08	81000.00		31553170.00	31414832.00	31184880.00
47 Ti # 3	0.5344	0.5344	ug/l	11.18	1620.00		586.69	703.37	700.04
51 V # 2	0.5263	0.5263	ug/l	5.14	1800.00		1478.96	1586.75	1610.09
52 Cr # 2	0.09288	0.09288	ug/l	4.32	1800.00		586.68	611.13	606.68
55 Mn # 3	10.13	10.13	ug/l	0.83	1800.00		186497.42	189016.25	187696.30
56 Fe # 1	1.043	1.043	ug/l	2.34	81000.00		12614.56	12617.95	12357.76
59 Co # 3	0.1263	0.1263	ug/l	0.75	1800.00		1810.14	1833.48	1836.81
60 Ni # 2	0.4678	0.4678	ug/l	6.05	1800.00		564.46	620.02	561.13
63 Cu # 2	0.06385	0.06385	ug/l	16.45	1800.00		636.68	635.57	578.90
66 Zn # 3	1.595	1.595	ug/l	3.72	1800.00		3977.20	3757.17	3797.17
75 As # 2	1.687	1.687	ug/l	2.56	100.00		560.01	580.68	588.68
78 Se # 1	-0.02087	-0.02087	ug/l	10.03	100.00		15.00	14.33	14.00
88 Sr # 3	10.96	10.96	ug/l	0.48	1800.00		269833.97	267847.75	267812.19
95 Mo # 3	0.06432	0.06432	ug/l	6.16	1800.00		370.01	366.68	346.68
107 Ag # 3	-0.003725	-0.003725	ug/l	72.08	100.00		110.00	53.34	76.67
111 Cd # 3	0.06073	0.06073	ug/l	32.67	100.00		129.92	199.93	113.26
118 Sn # 3	0.1053	0.1053	ug/l	13.49	1800.00		1410.10	1390.09	1596.79
121 Sb # 3	3.503	3.503	ug/l	1.78	100.00		31158.62	30320.53	30854.63
137 Ba # 3	2.197	2.197	ug/l	1.32	1800.00		8482.42	8675.80	8525.76
202 Hg # 3	-0.01758	-0.01758	ug/l	5.99	5.00		63.67	70.00	64.67
205 Tl # 3	-0.003573	-0.003573	ug/l	31.21	20.00		100.00	123.34	66.67
208 Pb # 3	1.075	1.075	ug/l	0.78	1800.00		38846.61	38799.51	38912.90
232 Th # 3	0.02934	0.02934	ug/l	11.68	#VALUE!		1440.11	1330.10	1223.43
238 U # 3	0.005509	0.005509	ug/l	9.12	#VALUE!		220.01	230.01	263.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406538.16	0.50	442436.88	91.9	60 - 125		406318.38	404627.50	408668.59
45 Sc # 1	416657.94	0.53	456299.72	91.3	60 - 125		414156.06	417585.38	418232.38
45 Sc # 3	710742.44	0.86	765061.25	92.9	60 - 125		705286.19	709550.69	717390.38
74 Ge # 1	145465.88	0.14	153441.28	94.8	60 - 125		145283.55	145432.67	145681.39
74 Ge # 2	43846.26	0.14	47804.94	91.7	60 - 125		43794.67	43916.06	43828.05
74 Ge # 3	214723.69	0.36	224564.78	95.6	60 - 125		214439.53	214138.98	215592.52
89 Y # 3	1260306.00	0.57	1302847.50	96.7	60 - 125		1265207.60	1251988.90	1263721.60
115 In # 3	1301919.00	0.78	1366177.60	95.3	60 - 125		1292198.40	1301089.90	1312468.40
159 Tb # 3	1891812.30	0.78	2052817.90	92.2	60 - 125		1875129.80	1897630.40	1902677.00
209 Bi # 3	1226421.50	1.43	1405468.50	87.3	60 - 125		1214074.60	1218741.90	1246447.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\304_QCS.D\304_QCS.D#
 Date Acquired: Aug 25 2014 11:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4504
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	19.96	0.10 69.5 - 130	
11 B	19.29 ug/l	3.63	20.00 69.5 - 130	
23 Na	43.81 ug/l	0.41	50.00 69.5 - 130	
24 Mg	56.28 ug/l	0.73	50.00 69.5 - 130	
27 Al	11.25 ug/l	1.07	10.00 69.5 - 130	
39 K	40.69 ug/l	0.99	50.00 69.5 - 130	
40 Ca	57.64 ug/l	0.27	50.00 69.5 - 130	
47 Ti	0.95 ug/l	2.41	1.00 69.5 - 130	
51 V	0.94 ug/l	2.00	1.00 69.5 - 130	
52 Cr	0.99 ug/l	1.43	1.00 69.5 - 130	
55 Mn	1.00 ug/l	1.49	1.00 69.5 - 130	
56 Fe	22.97 ug/l	1.19	20.00 69.5 - 130	
59 Co	0.10 ug/l	6.25	0.10 69.5 - 130	
60 Ni	1.03 ug/l	4.76	1.00 69.5 - 130	
63 Cu	0.91 ug/l	0.83	1.00 69.5 - 130	
66 Zn	3.96 ug/l	3.78	4.00 69.5 - 130	
75 As	0.49 ug/l	7.97	0.50 69.5 - 130	
78 Se	0.44 ug/l	1.77	0.50 69.5 - 130	
88 Sr	0.18 ug/l	0.30	0.20 69.5 - 130	
95 Mo	0.97 ug/l	5.35	1.00 69.5 - 130	
107 Ag	0.19 ug/l	2.97	0.20 69.5 - 130	
111 Cd	0.10 ug/l	8.31	0.10 69.5 - 130	
118 Sn	1.04 ug/l	1.98	1.00 69.5 - 130	
121 Sb	0.93 ug/l	2.48	1.00 69.5 - 130	
137 Ba	0.96 ug/l	6.60	1.00 69.5 - 130	
202 Hg	0.14 ug/l	6.29	0.16 69.5 - 130	
205 Tl	0.18 ug/l	2.95	0.20 69.5 - 130	
208 Pb	0.27 ug/l	3.45	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	403245.81	2.52	442436.88	91.1	60 - 125	
45 Sc	412735.88	0.19	456299.72	90.5	60 - 125	
45 Sc	704826.50	4.65	765061.25	92.1	60 - 125	
74 Ge	144324.20	0.21	153441.28	94.1	60 - 125	
74 Ge	43992.09	0.29	47804.94	92.0	60 - 125	
74 Ge	214231.81	1.03	224564.78	95.4	60 - 125	
89 Y	1266575.30	1.11	1302847.50	97.2	60 - 125	
115 In	1319314.80	1.99	1366177.60	96.6	60 - 125	
159 Tb	1885675.80	2.63	2052817.90	91.9	60 - 125	
209 Bi	1243046.10	1.90	1405468.50	88.4	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\305_CCV.D\305_CCV.D#
 Date Acquired: Aug 25 2014 11:33 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.95 ug/l	1.40	50.00	89.5 - 110		84809.31	83406.85	83707.87
11 B	96.29 ug/l	0.01	100.00	89.5 - 110		131958.56	133241.48	130798.02
23 Na	5099 ug/l	0.28	5000.00	89.5 - 110		16566743.00	16641718.00	16607580.00
24 Mg	5068 ug/l	0.21	5000.00	89.5 - 110		11506456.00	11491536.00	11545787.00
27 Al	518.6 ug/l	1.07	500.00	89.5 - 110		1384336.00	1412618.60	1402737.90
39 K	4884 ug/l	1.27	5000.00	89.5 - 110		1623044.40	1645647.90	1626201.60
40 Ca	5194 ug/l	0.38	5000.00	89.5 - 110		32328742.00	32542420.00	32437286.00
47 Ti	50.55 ug/l	1.52	50.00	89.5 - 110		53790.90	53172.72	53590.39
51 V	48.71 ug/l	0.07	50.00	89.5 - 110		125700.10	125161.16	126824.55
52 Cr	48.49 ug/l	0.62	50.00	89.5 - 110		151310.92	152080.42	152213.81
55 Mn	504.2 ug/l	0.66	500.00	89.5 - 110		9242485.00	9309258.00	9305188.00
56 Fe	5364 ug/l	0.04	5000.00	89.5 - 110		43732300.00	43652648.00	43714540.00
59 Co	48.91 ug/l	0.49	50.00	89.5 - 110		676906.56	685465.06	683665.44
60 Ni	49.58 ug/l	0.73	50.00	89.5 - 110		57256.71	57670.32	57605.73
63 Cu	48.46 ug/l	0.85	50.00	89.5 - 110		153639.47	155077.36	154590.97
66 Zn	48.82 ug/l	1.43	50.00	89.5 - 110		100229.24	99176.28	99209.75
75 As	49.89 ug/l	0.67	50.00	89.5 - 110		16859.11	16944.18	16933.83
78 Se	50.06 ug/l	0.39	50.00	89.5 - 110		12759.81	12819.52	12752.14
88 Sr	48.64 ug/l	0.98	50.00	89.5 - 110		1195912.80	1207709.00	1210136.90
95 Mo	49.32 ug/l	0.87	50.00	89.5 - 110		190202.08	190606.80	191522.13
107 Ag	47.74 ug/l	1.30	50.00	89.5 - 110		518184.25	513394.47	516695.81
111 Cd	48.34 ug/l	1.18	50.00	89.5 - 110		113413.87	112565.34	112703.27
118 Sn	48.8 ug/l	0.33	50.00	89.5 - 110		355886.44	361185.09	359384.53
121 Sb	48.25 ug/l	1.13	50.00	89.5 - 110		426241.50	423546.34	424119.31
137 Ba	48.25 ug/l	1.14	50.00	89.5 - 110		188023.33	187046.58	188298.61
202 Hg	2.559 ug/l	0.95	2.50	89.5 - 110		7838.60	7754.89	7899.97
205 Tl	9.469 ug/l	0.58	10.00	89.5 - 110		238829.69	243241.72	243009.63
208 Pb	47.48 ug/l	0.39	50.00	89.5 - 110		1645216.30	1655602.00	1650912.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	396606.09	0.92	442436.88	89.6	60 - 125		396503.84	400285.34	393029.09
45 Sc	421086.28	0.06	456299.72	92.3	60 - 125		421223.56	420803.31	421231.94
45 Sc	718243.63	1.44	765061.25	93.9	60 - 125		710828.13	713862.56	730040.19
74 Ge	146933.20	0.64	153441.28	95.8	60 - 125		146156.19	147987.28	146656.14
74 Ge	44557.57	0.62	47804.94	93.2	60 - 125		44514.16	44306.91	44851.63
74 Ge	214863.27	0.92	224564.78	95.7	60 - 125		213194.70	217036.19	214358.91
89 Y	1274474.30	0.93	1302847.50	97.8	60 - 125		1272969.30	1263433.80	1287019.80
115 In	1305540.30	0.83	1366177.60	95.6	60 - 125		1296360.80	1317499.00	1302761.30
159 Tb	1884037.60	0.53	2052817.90	91.8	60 - 125		1873319.40	1885894.50	1892898.80
209 Bi	1234999.00	1.54	1405468.50	87.9	60 - 125		1215618.00	1253513.50	1235865.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\306_CCB.D\306_CCB.D#
 Date Acquired: Aug 25 2014 11:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001397	0.001397	ug/l	141.23	#VALUE!		6.67	0.00	3.33
11 B # 3	1.7	1.7	ug/l	5.84	#VALUE!		4427.26	4480.63	4247.24
23 Na # 1	-10.66	-10.66	ug/l	1.00	#VALUE!		53126.86	52582.02	53531.29
24 Mg # 1	0.1545	0.1545	ug/l	15.58	#VALUE!		1300.08	1373.42	1280.08
27 Al # 1	0.01886	0.01886	ug/l	167.34	#VALUE!		1576.78	1436.76	1590.11
39 K # 2	-9.703	-9.703	ug/l	2.35	#VALUE!		9019.09	9229.18	9175.76
40 Ca # 1	0.6463	0.6463	ug/l	16.65	#VALUE!		27914.50	26839.50	26932.98
47 Ti # 3	-0.06528	-0.06528	ug/l	15.75	#VALUE!		23.33	36.67	43.33
51 V # 2	-0.02279	-0.02279	ug/l	45.68	#VALUE!		136.67	190.00	161.11
52 Cr # 2	-0.009182	-0.009182	ug/l	35.48	#VALUE!		272.23	286.67	293.34
55 Mn # 3	0.01653	0.01653	ug/l	52.92	#VALUE!		1580.12	1866.82	1580.12
56 Fe # 1	0.9155	0.9155	ug/l	3.23	#VALUE!		10973.51	11080.25	11490.55
59 Co # 3	0.0002826	0.0002826	ug/l	252.76	#VALUE!		60.00	66.67	80.00
60 Ni # 2	-0.002837	-0.002837	ug/l	105.64	#VALUE!		44.44	41.11	47.78
63 Cu # 2	-0.0489	-0.0489	ug/l	14.14	#VALUE!		261.12	240.00	282.23
66 Zn # 3	-0.07301	-0.07301	ug/l	13.43	#VALUE!		440.02	440.02	476.69
75 As # 2	-0.001245	-0.001245	ug/l	227.55	#VALUE!		14.67	13.33	13.00
78 Se # 1	-0.033	-0.033	ug/l	6.22	#VALUE!		11.00	10.67	11.67
88 Sr # 3	0.002245	0.002245	ug/l	28.41	#VALUE!		193.34	220.01	203.34
95 Mo # 3	0.02942	0.02942	ug/l	19.28	#VALUE!		236.67	230.01	200.01
107 Ag # 3	-0.0006202	-0.0006202	ug/l	542.57	#VALUE!		150.00	96.67	86.67
111 Cd # 3	0.005017	0.005017	ug/l	92.07	#VALUE!		9.95	13.28	29.96
118 Sn # 3	0.1028	0.1028	ug/l	7.03	#VALUE!		1456.78	1383.43	1416.77
121 Sb # 3	0.01979	0.01979	ug/l	8.78	#VALUE!		190.01	223.34	213.34
137 Ba # 3	0.003682	0.003682	ug/l	177.62	#VALUE!		33.34	80.00	40.00
202 Hg # 3	0.01415	0.01415	ug/l	46.71	#VALUE!		178.00	156.00	141.33
205 Tl # 3	-0.003667	-0.003667	ug/l	6.90	#VALUE!		86.67	90.00	100.00
208 Pb # 3	-0.01993	-0.01993	ug/l	17.71	#VALUE!		783.70	573.36	593.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	388687.53	0.53	442436.88	87.9	60 - 125		390632.59	386555.97	388873.94
45 Sc # 1	405128.09	0.38	456299.72	88.8	60 - 125		404257.34	404237.47	406889.47
45 Sc # 3	680557.31	0.38	765061.25	89.0	60 - 125		683570.31	679158.56	678943.00
74 Ge # 1	141963.97	1.01	153441.28	92.5	60 - 125		140311.11	142895.11	142685.67
74 Ge # 2	43311.64	0.39	47804.94	90.6	60 - 125		43121.94	43451.57	43361.39
74 Ge # 3	208560.02	1.05	224564.78	92.9	60 - 125		206024.58	209892.98	209762.50
89 Y # 3	1235960.60	0.92	1302847.50	94.9	60 - 125		1242647.00	1222839.60	1242395.10
115 In # 3	1277184.00	1.17	1366177.60	93.5	60 - 125		1259964.00	1284367.50	1287220.30
159 Tb # 3	1849874.50	0.68	2052817.90	90.1	60 - 125		1836785.10	1850903.30	1861935.60
209 Bi # 3	1243490.60	0.61	1405468.50	88.5	60 - 125		1234737.40	1248281.50	1247453.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\307SMPL.D\307SMPL.D#
 Date Acquired: Aug 25 2014 11:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345543_1-a
 Misc Info: 3050 1/5
 Vial Number: 2101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001392	0.001392	ug/l	141.67	100.00		6.67	0.00	3.33
11 B # 3	1.135	1.135	ug/l	14.12	1800.00		3420.38	3830.47	3727.11
23 Na # 1	-8.024	-8.024	ug/l	0.51	81000.00		61986.72	61953.50	61555.25
24 Mg # 1	1.473	1.473	ug/l	5.33	81000.00		4043.87	4353.93	4307.28
27 Al # 1	2.361	2.361	ug/l	2.48	81000.00		7865.17	7571.74	7588.36
39 K # 2	-6.712	-6.712	ug/l	7.19	81000.00		10126.28	9952.88	10179.65
40 Ca # 1	6.293	6.293	ug/l	0.10	81000.00		61804.67	61637.49	61496.96
47 Ti # 3	-0.01282	-0.01282	ug/l	40.62	1620.00		86.67	93.34	83.34
51 V # 2	0.04658	0.04658	ug/l	12.32	1800.00		323.34	353.34	331.12
52 Cr # 2	0.1053	0.1053	ug/l	7.53	1800.00		612.24	623.35	656.68
55 Mn # 3	0.7376	0.7376	ug/l	0.32	1800.00		14632.79	14486.01	14776.27
56 Fe # 1	330.8	330.8	ug/l	0.33	81000.00		2614970.00	2628198.30	2612424.50
59 Co # 3	0.004022	0.004022	ug/l	12.96	1800.00		113.34	126.67	120.00
60 Ni # 2	0.1592	0.1592	ug/l	7.71	1800.00		213.34	242.23	224.45
63 Cu # 2	-2.16E-005	-2.16E-005	ug/l	36124.00	1800.00		396.67	441.12	396.67
66 Zn # 3	0.2307	0.2307	ug/l	12.18	1800.00		1003.39	1106.73	1053.40
75 As # 2	0.04684	0.04684	ug/l	11.08	100.00		31.33	28.33	28.67
78 Se # 1	-0.05308	-0.05308	ug/l	6.29	100.00		5.33	7.00	6.33
88 Sr # 3	0.006291	0.006291	ug/l	17.68	1800.00		293.35	280.01	333.35
95 Mo # 3	0.01041	0.01041	ug/l	114.79	1800.00		150.01	196.67	106.67
107 Ag # 3	-0.002063	-0.002063	ug/l	27.33	100.00		90.00	103.34	96.67
111 Cd # 3	0.00117	0.00117	ug/l	315.98	100.00		16.63	9.96	-0.02
118 Sn # 3	2.121	2.121	ug/l	1.85	1800.00		15760.89	15747.59	16478.20
121 Sb # 3	0.01415	0.01415	ug/l	3.27	100.00		163.34	160.01	160.01
137 Ba # 3	0.03037	0.03037	ug/l	11.38	1800.00		156.67	163.34	140.01
202 Hg # 3	-0.007011	-0.007011	ug/l	65.53	5.00		100.67	107.34	82.67
205 Tl # 3	-0.005023	-0.005023	ug/l	2.04	20.00		60.00	60.00	56.67
208 Pb # 3	-0.01634	-0.01634	ug/l	11.98	1800.00		793.37	703.36	850.04
232 Th # 3	0.04325	0.04325	ug/l	9.82	#VALUE!		2043.54	1766.82	1800.17
238 U # 3	0.0007761	0.0007761	ug/l	33.60	#VALUE!		66.67	46.67	60.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	390979.31	0.19	442436.88	88.4	60 - 125		390692.69	390438.69	391806.56
45 Sc # 1	408534.13	0.20	456299.72	89.5	60 - 125		409288.63	408650.09	407663.63
45 Sc # 3	686718.19	0.31	765061.25	89.8	60 - 125		685138.25	685904.25	689112.00
74 Ge # 1	143227.64	0.18	153441.28	93.3	60 - 125		143051.73	143523.28	143107.88
74 Ge # 2	43233.31	0.37	47804.94	90.4	60 - 125		43150.86	43418.30	43130.76
74 Ge # 3	209547.48	0.72	224564.78	93.3	60 - 125		209355.64	208147.83	211138.97
89 Y # 3	1233389.60	0.61	1302847.50	94.7	60 - 125		1238433.50	1224716.40	1237018.80
115 In # 3	1284012.50	1.32	1366177.60	94.0	60 - 125		1265856.50	1286669.60	1299511.50
159 Tb # 3	1870776.00	1.18	2052817.90	91.1	60 - 125		1855605.80	1860568.80	1896153.30
209 Bi # 3	1245327.80	0.92	1405468.50	88.6	60 - 125		1239560.40	1237961.90	1258461.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\308SMPL.D\308SMPL.D#
 Date Acquired: Aug 25 2014 11:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345543_2-a
 Misc Info: 3050 1/5
 Vial Number: 2102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.98	10.98	ug/l	0.69	100.00		19099.68	18806.08	19159.79
11 B # 3	41.77	41.77	ug/l	0.77	1800.00		59126.45	59263.48	58775.22
23 Na # 1	1171	1171	ug/l	0.65	81000.00		3817502.50	3805367.80	3771705.00
24 Mg # 1	1199	1199	ug/l	0.70	81000.00		2685032.00	2667762.50	2647344.30
27 Al # 1	1186	1186	ug/l	0.86	81000.00		3158505.30	3132115.30	3103587.80
39 K # 2	1079	1079	ug/l	0.28	81000.00		361201.59	364612.50	364215.50
40 Ca # 1	1236	1236	ug/l	0.78	81000.00		7602670.00	7602960.00	7505336.50
47 Ti # 3	21.94	21.94	ug/l	1.52	1620.00		22814.41	22503.97	22380.51
51 V # 2	21.61	21.61	ug/l	0.89	1800.00		55317.89	54809.78	54700.57
52 Cr # 2	22.08	22.08	ug/l	1.05	1800.00		68492.26	68389.76	67280.15
55 Mn # 3	115.3	115.3	ug/l	1.91	1800.00		2069935.60	2099540.50	2067982.90
56 Fe # 1	1249	1249	ug/l	0.27	81000.00		9965831.00	9981441.00	9942980.00
59 Co # 3	11.19	11.19	ug/l	1.89	1800.00		152095.58	154259.50	152078.70
60 Ni # 2	22.64	22.64	ug/l	0.85	1800.00		25814.73	25642.23	25937.06
63 Cu # 2	21.82	21.82	ug/l	0.37	1800.00		68508.27	68484.82	68505.00
66 Zn # 3	21.63	21.63	ug/l	1.18	1800.00		44036.66	43408.49	43067.88
75 As # 2	22.24	22.24	ug/l	0.20	100.00		7378.17	7426.52	7423.52
78 Se # 1	22.71	22.71	ug/l	0.62	100.00		5724.91	5675.56	5572.86
88 Sr # 3	20.44	20.44	ug/l	0.91	1800.00		495681.97	498653.53	493101.50
95 Mo # 3	21.41	21.41	ug/l	1.16	1800.00		82169.55	83636.58	81623.39
107 Ag # 3	10.61	10.61	ug/l	0.82	100.00		115084.97	114454.85	113307.60
111 Cd # 3	10.75	10.75	ug/l	1.43	100.00		25374.16	24786.48	24813.64
118 Sn # 3	45.96	45.96	ug/l	0.99	1800.00		339774.84	335195.84	334080.06
121 Sb # 3	10.74	10.74	ug/l	0.62	100.00		93893.81	94859.34	93545.28
137 Ba # 3	21.11	21.11	ug/l	0.18	1800.00		81863.48	81846.61	81649.09
202 Hg # 3	0.9432	0.9432	ug/l	1.31	5.00		2967.62	2917.27	2973.28
205 Tl # 3	8.28	8.28	ug/l	0.17	20.00		209979.22	211638.48	210686.27
208 Pb # 3	10.58	10.58	ug/l	0.38	1800.00		367815.63	369084.31	366878.53
232 Th # 3	11.07	11.07	ug/l	0.72	#VALUE!		409052.97	406704.47	402270.66
238 U # 3	10.73	10.73	ug/l	0.73	#VALUE!		414315.16	409041.50	405729.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	400427.16	0.49	442436.88	90.5	60 - 125		402390.19	398445.66	400445.63
45 Sc # 1	412081.13	0.10	456299.72	90.3	60 - 125		412403.34	411627.84	412212.22
45 Sc # 3	695855.44	0.52	765061.25	91.0	60 - 125		692075.13	696180.88	699310.25
74 Ge # 1	143131.97	0.79	153441.28	93.3	60 - 125		143920.97	143640.34	141834.58
74 Ge # 2	43732.99	0.35	47804.94	91.5	60 - 125		43588.64	43895.95	43714.40
74 Ge # 3	210348.30	1.08	224564.78	93.7	60 - 125		212255.33	207833.63	210955.94
89 Y # 3	1248378.90	0.52	1302847.50	95.8	60 - 125		1241714.60	1248746.40	1254675.60
115 In # 3	1299266.10	0.13	1366177.60	95.1	60 - 125		1297783.30	1301104.30	1298911.00
159 Tb # 3	1878807.50	0.32	2052817.90	91.5	60 - 125		1871893.80	1883351.30	1881177.50
209 Bi # 3	1225893.40	0.55	1405468.50	87.2	60 - 125		1233281.50	1220198.90	1224199.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\309SMPL.D\309SMPL.D#
 Date Acquired: Aug 26 2014 12:03 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-1-a
 Misc Info: 3050 1/5
 Vial Number: 2103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.395	1.395	ug/l	1.74	100.00		2430.21	2453.55	2396.87
11 B # 3	7.492	7.492	ug/l	2.13	1800.00		12327.50	12694.37	12324.15
23 Na # 1	68.99	68.99	ug/l	1.13	81000.00		334876.25	335675.00	339649.59
24 Mg # 1	1229	1229	ug/l	0.56	81000.00		3020935.80	3004837.00	2985667.50
27 Al # 1	12830	12830	ug/l	0.47	81000.00		37136324.00	37081188.00	37366228.00
39 K # 2	1163	1163	ug/l	0.55	81000.00		402440.78	405743.81	403034.28
40 Ca # 1	9743	9743	ug/l	0.44	81000.00		65543172.00	65115632.00	65565412.00
47 Ti # 3	140	140	ug/l	0.59	1620.00		159981.03	161764.61	162566.09
51 V # 2	33.29	33.29	ug/l	0.95	1800.00		86858.52	88149.93	86895.16
52 Cr # 2	44.89	44.89	ug/l	0.22	1800.00		142215.09	142813.19	142810.81
55 Mn # 3	1253	1253	ug/l	0.46	1800.00		23057172.00	23219850.00	23081526.00
56 Fe # 1	32700	32700	ug/l	0.10	81000.00		286233860.00	286437180.00	286585730.00
59 Co # 3	15.67	15.67	ug/l	0.25	1800.00		219035.80	218680.28	219109.53
60 Ni # 2	17.89	17.89	ug/l	0.73	1800.00		21206.65	21069.83	20967.48
63 Cu # 2	50.13	50.13	ug/l	0.82	1800.00		161735.59	163179.41	161063.30
66 Zn # 3	691.1	691.1	ug/l	0.28	1800.00		1396172.10	1404060.30	1411027.50
75 As # 2	17.92	17.92	ug/l	1.22	100.00		6184.72	6224.07	6097.70
78 Se # 1	1.241	1.241	ug/l	1.24	100.00		340.34	335.34	336.00
88 Sr # 3	31.4	31.4	ug/l	0.36	1800.00		1019269.40	1014270.40	1014305.30
95 Mo # 3	1.637	1.637	ug/l	1.85	1800.00		6388.01	6591.42	6541.38
107 Ag # 3	0.4413	0.4413	ug/l	2.62	100.00		5044.22	4877.48	4897.48
111 Cd # 3	1.727	1.727	ug/l	3.48	100.00		3972.49	4212.52	4059.15
118 Sn # 3	15.9	15.9	ug/l	1.38	1800.00		119445.10	117673.55	118656.33
121 Sb # 3	0.9497	0.9497	ug/l	1.46	100.00		8285.59	8482.34	8679.12
137 Ba # 3	284	284	ug/l	1.16	1800.00		1112195.90	1118700.80	1117925.60
202 Hg # 3	0.2396	0.2396	ug/l	8.93	5.00		806.02	931.79	842.69
205 Tl # 3	0.3291	0.3291	ug/l	3.11	20.00		8609.25	9046.21	8679.31
208 Pb # 3	244.4	244.4	ug/l	0.69	1800.00		8685352.00	8635667.00	8739887.00
232 Th # 3	2.509	2.509	ug/l	0.43	#VALUE!		95430.67	96681.55	95819.49
238 U # 3	1.346	1.346	ug/l	1.09	#VALUE!		53433.18	53487.28	53594.22

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	401957.41	0.91	442436.88	90.9	60 - 125		397921.66	402887.72	405062.88
45 Sc # 1	452792.69	0.06	456299.72	99.2	60 - 125		452800.13	453067.06	452510.88
45 Sc # 3	783175.44	1.03	765061.25	102.4	60 - 125		774282.81	790036.94	785206.63
74 Ge # 1	147433.20	0.40	153441.28	96.1	60 - 125		146883.06	148044.36	147372.20
74 Ge # 2	45182.43	0.18	47804.94	94.5	60 - 125		45136.76	45133.38	45277.13
74 Ge # 3	215293.52	0.26	224564.78	95.9	60 - 125		214785.09	215208.53	215886.89
89 Y # 3	1664886.10	0.22	1302847.50	127.8	60 - 125	IS I	1664953.10	1668480.90	1661224.10
115 In # 3	1318784.40	1.24	1366177.60	96.5	60 - 125		1310198.50	1308509.50	1337645.10
159 Tb # 3	1927443.50	1.04	2052817.90	93.9	60 - 125		1912253.80	1919859.10	1950217.60
209 Bi # 3	1276300.30	1.08	1405468.50	90.8	60 - 125		1265932.30	1291954.10	1271014.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\310SMPL.D\310SMPL.D#
 Date Acquired: Aug 26 2014 12:10 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-1-ASD
 Misc Info: 3050 1/25
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.4385	0.2877	ug/l	5.49	100.00		480.02	533.36	490.02
11 B # 3	9.185	1.837	ug/l	6.30	1800.00		4517.32	4834.08	4810.71
23 Na # 1	23.055	4.611	ug/l	2.11	81000.00		105741.59	105799.19	106244.24
24 Mg # 1	1378.5	275.7	ug/l	0.22	81000.00		636296.00	633702.44	635062.00
27 Al # 1	13595	2719	ug/l	0.42	81000.00		7391590.00	7426517.50	7449439.00
39 K # 2	1121.5	224.3	ug/l	1.80	81000.00		86149.59	88795.24	86862.46
40 Ca # 1	10295	2059	ug/l	0.82	81000.00		12931430.00	13018055.00	13134429.00
47 Ti # 3	151.25	30.25	ug/l	1.69	1620.00		32398.55	32461.92	32842.51
51 V # 2	33.205	6.641	ug/l	1.14	1800.00		17265.83	17399.28	17593.91
52 Cr # 2	45.505	9.101	ug/l	0.55	1800.00		28854.50	28771.05	28979.15
55 Mn # 3	1250.5	250.1	ug/l	0.60	1800.00		4672130.50	4648009.50	4660806.50
56 Fe # 1	35115	7023	ug/l	0.65	81000.00		57942344.00	57540524.00	58246492.00
59 Co # 3	15.435	3.087	ug/l	1.61	1800.00		43337.97	43084.04	44407.20
60 Ni # 2	19.23	3.846	ug/l	1.12	1800.00		4555.04	4469.47	4543.93
63 Cu # 2	50.9	10.18	ug/l	0.31	1800.00		32842.56	32912.62	32933.80
66 Zn # 3	667	133.4	ug/l	0.40	1800.00		272435.16	274241.03	275720.63
75 As # 2	18.21	3.642	ug/l	1.81	100.00		1229.71	1273.71	1254.05
78 Se # 1	1.0475	0.2095	ug/l	7.16	100.00		77.67	71.33	71.00
88 Sr # 3	37.335	7.467	ug/l	0.60	1800.00		198253.48	199901.95	197852.36
95 Mo # 3	1.55	0.31	ug/l	1.20	1800.00		1330.09	1350.09	1340.09
107 Ag # 3	0.4268	0.08536	ug/l	1.53	100.00		1080.06	1063.40	1053.40
111 Cd # 3	1.599	0.3198	ug/l	10.03	100.00		786.42	683.07	839.75
118 Sn # 3	16.265	3.253	ug/l	1.19	1800.00		25212.33	25228.95	24865.05
121 Sb # 3	0.9795	0.1959	ug/l	2.03	100.00		1843.49	1783.47	1776.82
137 Ba # 3	271.55	54.31	ug/l	0.30	1800.00		215653.48	215612.81	216531.41
202 Hg # 3	0.2303	0.04606	ug/l	23.56	5.00		233.67	253.34	298.01
205 Tl # 3	0.33595	0.06719	ug/l	1.13	20.00		1903.51	1946.85	1943.53
208 Pb # 3	244.05	48.81	ug/l	0.23	1800.00		1717811.60	1729407.60	1724143.80
232 Th # 3	2.496	0.4992	ug/l	1.68	#VALUE!		19139.08	19913.94	19356.08
238 U # 3	1.368	0.2736	ug/l	1.56	#VALUE!		11141.05	11077.70	10754.08

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	401839.81	0.42	442436.88	90.8	60 - 125		399935.31	402401.19	403182.94
45 Sc # 1	426209.59	0.04	456299.72	93.4	60 - 125		426265.88	426364.16	425998.78
45 Sc # 3	729315.06	1.11	765061.25	95.3	60 - 125		727502.88	738128.75	722313.50
74 Ge # 1	147033.80	0.15	153441.28	95.8	60 - 125		146895.47	146924.38	147281.55
74 Ge # 2	44713.48	0.19	47804.94	93.5	60 - 125		44764.72	44759.18	44616.55
74 Ge # 3	217390.25	0.34	224564.78	96.8	60 - 125		216550.33	217983.88	217636.58
89 Y # 3	1368410.50	0.85	1302847.50	105.0	60 - 125		1374184.50	1375971.50	1355075.60
115 In # 3	1333658.60	0.42	1366177.60	97.6	60 - 125		1335625.40	1327355.10	1337995.40
159 Tb # 3	1913954.80	0.47	2052817.90	93.2	60 - 125		1907819.40	1924320.00	1909725.10
209 Bi # 3	1286866.30	0.55	1405468.50	91.6	60 - 125		1285873.90	1294406.50	1280318.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\311SMPL.D\311SMPL.D#
 Date Acquired: Aug 26 2014 12:17 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-1-aPDS
 Misc Info: 3050 1/5
 Vial Number: 2105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	20.73	20.73	ug/l	0.65	100.00		35168.64	35836.63	36274.02
11 B # 3	44.67	44.67	ug/l	0.66	1800.00		62487.25	62911.70	62865.07
23 Na # 1	1968	1968	ug/l	2.53	81000.00		6787443.00	6727523.00	6768186.50
24 Mg # 1	3114	3114	ug/l	2.50	81000.00		7419732.50	7407665.50	7378876.50
27 Al # 1	13200	13200	ug/l	2.18	81000.00		37237556.00	37114128.00	37335948.00
39 K # 2	3088	3088	ug/l	0.50	81000.00		1045657.50	1041680.30	1039793.10
40 Ca # 1	11830	11830	ug/l	1.88	81000.00		76943248.00	77483256.00	77456832.00
47 Ti # 3	155.9	155.9	ug/l	1.83	1620.00		179899.31	182846.72	183483.69
51 V # 2	52.12	52.12	ug/l	0.94	1800.00		135736.95	134650.69	136071.81
52 Cr # 2	63.96	63.96	ug/l	1.03	1800.00		200513.83	200581.70	203119.08
55 Mn # 3	1432	1432	ug/l	1.24	1800.00		26457022.00	26555378.00	26864338.00
56 Fe # 1	35510	35510	ug/l	2.38	81000.00		302946590.00	302734980.00	302046620.00
59 Co # 3	34.48	34.48	ug/l	0.85	1800.00		484535.34	483394.00	488458.44
60 Ni # 2	37.24	37.24	ug/l	0.95	1800.00		43385.10	43265.84	43772.64
63 Cu # 2	68.64	68.64	ug/l	0.42	1800.00		219368.55	220033.03	220228.64
66 Zn # 3	703.6	703.6	ug/l	1.72	1800.00		1422614.40	1447974.10	1449336.90
75 As # 2	37.36	37.36	ug/l	0.41	100.00		12730.43	12850.85	12654.05
78 Se # 1	20.81	20.81	ug/l	1.18	100.00		5288.78	5216.76	5289.44
88 Sr # 3	45.56	45.56	ug/l	0.38	1800.00		1472577.50	1485601.40	1492813.80
95 Mo # 3	20.79	20.79	ug/l	1.25	1800.00		81617.02	81636.66	81322.52
107 Ag # 3	18.59	18.59	ug/l	0.68	100.00		202730.86	203749.13	204409.86
111 Cd # 3	20.15	20.15	ug/l	0.97	100.00		47009.37	48032.02	47948.46
118 Sn # 3	34.39	34.39	ug/l	0.62	1800.00		254823.75	256608.14	257516.19
121 Sb # 3	19.29	19.29	ug/l	0.77	100.00		170898.44	172525.27	172535.64
137 Ba # 3	303.4	303.4	ug/l	0.84	1800.00		1192869.00	1196110.30	1198174.60
202 Hg # 3	1.153	1.153	ug/l	1.21	5.00		3597.08	3675.43	3724.11
205 Tl # 3	3.924	3.924	ug/l	0.31	20.00		101902.23	102486.61	102490.22
208 Pb # 3	260.4	260.4	ug/l	0.26	1800.00		9146416.00	9246703.00	9298102.00
232 Th # 3	21.3	21.3	ug/l	0.72	#VALUE!		803802.38	798407.00	814400.56
238 U # 3	19.28	19.28	ug/l	0.37	#VALUE!		754844.94	756479.19	767234.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	398805.34	0.99	442436.88	90.1	60 - 125		394320.78	400443.47	401651.81
45 Sc # 1	440668.09	2.22	456299.72	96.6	60 - 125		430071.03	442521.94	449411.38
45 Sc # 3	793142.63	1.26	765061.25	103.7	60 - 125		797598.44	781661.31	800168.19
74 Ge # 1	145371.00	0.64	153441.28	94.7	60 - 125		144318.36	145751.77	146042.86
74 Ge # 2	44822.68	0.39	47804.94	93.8	60 - 125		44753.60	45020.91	44693.54
74 Ge # 3	216925.27	0.73	224564.78	96.6	60 - 125		218584.38	215434.19	216757.25
89 Y # 3	1675857.60	0.51	1302847.50	128.6	60 - 125	IS I	1669890.80	1672088.50	1685593.90
115 In # 3	1322185.50	1.04	1366177.60	96.8	60 - 125		1311169.00	1317704.10	1337683.10
159 Tb # 3	1921992.30	0.58	2052817.90	93.6	60 - 125		1910289.40	1923135.80	1932551.60
209 Bi # 3	1265005.10	0.60	1405468.50	90.0	60 - 125		1257778.30	1264284.60	1272952.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\312SMPL.D\312SMPL.D#
 Date Acquired: Aug 26 2014 12:25 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-1-b ms
 Misc Info: 3050 1/5
 Vial Number: 2106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	11.76	11.76	ug/l	1.34	100.00		20154.11	20087.38	20050.72
11 B # 3	39.84	39.84	ug/l	3.14	1800.00		57006.98	54593.48	55449.10
23 Na # 1	1078	1078	ug/l	0.38	81000.00		3799383.80	3791085.00	3780805.80
24 Mg # 1	2369	2369	ug/l	0.53	81000.00		5712137.50	5665521.50	5702866.50
27 Al # 1	16120	16120	ug/l	0.65	81000.00		46254276.00	45884220.00	45812820.00
39 K # 2	2354	2354	ug/l	0.15	81000.00		783825.81	781350.19	778088.19
40 Ca # 1	12730	12730	ug/l	0.25	81000.00		84107544.00	83906800.00	84224344.00
47 Ti # 3	154.1	154.1	ug/l	1.45	1620.00		181495.63	179221.95	177388.95
51 V # 2	58.04	58.04	ug/l	0.35	1800.00		148429.83	146919.22	147709.95
52 Cr # 2	63.37	63.37	ug/l	0.43	1800.00		196081.16	194333.05	195737.55
55 Mn # 3	1400	1400	ug/l	0.50	1800.00		25981300.00	25918682.00	25677956.00
56 Fe # 1	34810	34810	ug/l	0.36	81000.00		298326590.00	301007010.00	300737310.00
59 Co # 3	27.61	27.61	ug/l	0.37	1800.00		387649.09	385456.66	385776.00
60 Ni # 2	40.36	40.36	ug/l	0.81	1800.00		46591.72	45634.91	46124.97
63 Cu # 2	77.51	77.51	ug/l	0.37	1800.00		243033.73	242873.70	243215.98
66 Zn # 3	696.2	696.2	ug/l	0.09	1800.00		1415926.30	1416694.10	1414351.00
75 As # 2	40.06	40.06	ug/l	0.05	100.00		13425.26	13368.22	13340.87
78 Se # 1	22.03	22.03	ug/l	0.62	100.00		5525.85	5524.51	5515.18
88 Sr # 3	47.37	47.37	ug/l	0.81	1800.00		1587419.50	1570596.00	1564468.80
95 Mo # 3	21.29	21.29	ug/l	0.86	1800.00		82611.90	81995.25	82376.88
107 Ag # 3	10.57	10.57	ug/l	0.47	100.00		114098.63	113856.96	114796.88
111 Cd # 3	11.77	11.77	ug/l	1.45	100.00		27737.87	27203.71	27440.69
118 Sn # 3	54.44	54.44	ug/l	1.88	1800.00		404422.47	400346.31	394407.84
121 Sb # 3	5.229	5.229	ug/l	1.73	100.00		46559.99	45874.83	45560.53
137 Ba # 3	307.1	307.1	ug/l	0.82	1800.00		1197049.40	1186523.00	1197944.60
202 Hg # 3	1.115	1.115	ug/l	3.85	5.00		3580.74	3718.30	3473.72
205 Tl # 3	7.673	7.673	ug/l	0.75	20.00		203424.38	202388.52	200747.94
208 Pb # 3	249.9	249.9	ug/l	0.90	1800.00		9032524.00	8968208.00	8880940.00
232 Th # 3	7.868	7.868	ug/l	1.49	#VALUE!		296838.88	299244.31	293053.50
238 U # 3	11.32	11.32	ug/l	0.72	#VALUE!		445504.69	443565.09	441731.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	395149.19	1.09	442436.88	89.3	60 - 125		390887.28	395097.53	399462.75
45 Sc # 1	445508.91	0.14	456299.72	97.6	60 - 125		444808.69	445856.50	445861.44
45 Sc # 3	790389.44	0.31	765061.25	103.3	60 - 125		788211.00	789948.94	793008.25
74 Ge # 1	143996.58	0.52	153441.28	93.8	60 - 125		143834.67	143335.39	144819.66
74 Ge # 2	43880.41	0.34	47804.94	91.8	60 - 125		44051.91	43822.48	43766.85
74 Ge # 3	215524.83	0.17	224564.78	96.0	60 - 125		215535.28	215885.08	215154.14
89 Y # 3	1710467.00	0.65	1302847.50	131.3	60 - 125	IS I	1711511.10	1721038.80	1698850.80
115 In # 3	1304154.60	0.62	1366177.60	95.5	60 - 125		1295758.90	1304827.40	1311877.80
159 Tb # 3	1944765.10	0.35	2052817.90	94.7	60 - 125		1949594.50	1936979.10	1947721.60
209 Bi # 3	1259219.50	0.44	1405468.50	89.6	60 - 125		1259802.80	1253410.30	1264445.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\313SMPL.D\313SMPL.D#
 Date Acquired: Aug 26 2014 12:32 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-1-c msd
 Misc Info: 3050 1/5
 Vial Number: 2107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	11.44	11.44	ug/l	0.96	100.00		19493.30	19103.10	19273.22
11 B # 3	36.32	36.32	ug/l	0.29	1800.00		50298.88	50135.05	50368.80
23 Na # 1	1038	1038	ug/l	0.90	81000.00		3674546.50	3629533.30	3628427.00
24 Mg # 1	1976	1976	ug/l	0.63	81000.00		4743266.50	4693417.50	4783111.50
27 Al # 1	16680	16680	ug/l	0.17	81000.00		47515684.00	47265044.00	47665412.00
39 K # 2	2113	2113	ug/l	0.52	81000.00		693612.94	697071.06	700545.56
40 Ca # 1	9753	9753	ug/l	0.45	81000.00		64455040.00	63771652.00	64592304.00
47 Ti # 3	138.2	138.2	ug/l	1.07	1620.00		158361.47	158271.14	156405.31
51 V # 2	65.35	65.35	ug/l	0.62	1800.00		165710.28	164567.22	164688.33
52 Cr # 2	103.3	103.3	ug/l	0.31	1800.00		315919.50	315106.97	316507.88
55 Mn # 3	1472	1472	ug/l	0.97	1800.00		26770726.00	27073104.00	26837442.00
56 Fe # 1	46120	46120	ug/l	0.43	81000.00		397841630.00	395507550.00	396308350.00
59 Co # 3	31.41	31.41	ug/l	1.27	1800.00		435186.19	434957.53	433171.13
60 Ni # 2	38.07	38.07	ug/l	0.52	1800.00		43034.32	43201.22	43270.32
63 Cu # 2	70.2	70.2	ug/l	0.73	1800.00		219542.94	218122.95	217801.55
66 Zn # 3	652	652	ug/l	1.36	1800.00		1310196.40	1320299.60	1302958.10
75 As # 2	42.29	42.29	ug/l	1.26	100.00		14133.46	14020.39	13883.61
78 Se # 1	21.1	21.1	ug/l	1.78	100.00		5329.46	5202.75	5200.75
88 Sr # 3	52.72	52.72	ug/l	1.30	1800.00		1684890.10	1702385.80	1680541.90
95 Mo # 3	20.57	20.57	ug/l	1.62	1800.00		80123.45	78637.29	78891.70
107 Ag # 3	10.15	10.15	ug/l	1.36	100.00		110287.88	109271.77	108396.30
111 Cd # 3	11.23	11.23	ug/l	1.32	100.00		26329.40	26092.75	25902.49
118 Sn # 3	50.83	50.83	ug/l	0.67	1800.00		371864.22	371409.84	372169.09
121 Sb # 3	5.184	5.184	ug/l	0.55	100.00		45035.81	45954.99	45286.48
137 Ba # 3	269.2	269.2	ug/l	0.52	1800.00		1038623.20	1051057.00	1037232.20
202 Hg # 3	1.063	1.063	ug/l	3.52	5.00		3416.46	3252.34	3416.12
205 Tl # 3	7.499	7.499	ug/l	1.02	20.00		193831.61	192726.36	194573.14
208 Pb # 3	215.4	215.4	ug/l	0.64	1800.00		7563033.00	7572134.00	7584346.50
232 Th # 3	8.867	8.867	ug/l	1.26	#VALUE!		329905.78	329976.06	327897.75
238 U # 3	11.1	11.1	ug/l	1.61	#VALUE!		431901.59	426803.06	428721.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389792.31	0.10	442436.88	88.1	60 - 125		390185.00	389770.81	389421.13
45 Sc # 1	444479.28	0.34	456299.72	97.4	60 - 125		444064.63	443220.59	446152.59
45 Sc # 3	774677.25	0.39	765061.25	101.3	60 - 125		771901.31	774245.06	777885.19
74 Ge # 1	142823.44	0.37	153441.28	93.1	60 - 125		142233.42	142991.50	143245.39
74 Ge # 2	43548.45	0.53	47804.94	91.1	60 - 125		43547.33	43319.00	43779.03
74 Ge # 3	213155.73	1.06	224564.78	94.9	60 - 125		210669.06	213734.66	215063.48
89 Y # 3	1649039.30	0.62	1302847.50	126.6	60 - 125	IS F	1655683.60	1637307.30	1654127.00
115 In # 3	1298966.10	0.61	1366177.60	95.1	60 - 125		1290341.90	1306079.30	1300477.10
159 Tb # 3	1906378.90	0.71	2052817.90	92.9	60 - 125		1891923.30	1918547.50	1908666.00
209 Bi # 3	1241492.00	1.04	1405468.50	88.3	60 - 125		1226655.00	1248522.80	1249298.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 1 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\314SMPL.D\314SMPL.D#
 Date Acquired: Aug 26 2014 12:39 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-2-a
 Misc Info: 3050 1/5
 Vial Number: 2108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	2.615	2.615	ug/l	3.69	100.00		4257.24	4553.99	4450.63
11 B #3	11.41	11.41	ug/l	1.87	1800.00		17558.27	17321.45	17037.84
23 Na #1	154.8	154.8	ug/l	1.55	81000.00		678752.19	682835.00	673538.38
24 Mg #1	8034	8034	ug/l	0.98	81000.00		20950308.00	21009844.00	20889640.00
27 Al #1	21860	21860	ug/l	0.64	81000.00		67579728.00	67328232.00	68090424.00
39 K #2	1872	1872	ug/l	0.93	81000.00		612584.19	619490.56	626333.88
40 Ca #1	27100	27100	ug/l	0.54	81000.00		193551860.00	193147740.00	195779520.00
47 Ti #3	198.4	198.4	ug/l	0.48	1620.00		250029.66	250072.28	251210.17
51 V #2	102.7	102.7	ug/l	0.91	1800.00		256567.64	259588.98	262343.91
52 Cr #2	79.31	79.31	ug/l	0.59	1800.00		242035.89	242087.45	244513.39
55 Mn #3	2635	2635	ug/l	0.63	1800.00	Fail	47670052.00	47754160.00	48206624.00
56 Fe #1	75290	75290	ug/l	0.18	81000.00		699511810.00	703300800.00	709053060.00
59 Co #3	21.22	21.22	ug/l	0.68	1800.00		289985.06	291945.69	294149.53
60 Ni #2	29.27	29.27	ug/l	0.66	1800.00		33105.07	33118.47	33495.80
63 Cu #2	90.04	90.04	ug/l	0.49	1800.00		279004.16	280075.91	282196.25
66 Zn #3	654.3	654.3	ug/l	0.62	1800.00		1307777.80	1302499.60	1315707.30
75 As #2	34	34	ug/l	1.10	100.00		11147.74	11268.48	11434.24
78 Se #1	1.564	1.564	ug/l	3.49	100.00		416.67	406.01	392.34
88 Sr #3	34.99	34.99	ug/l	0.33	1800.00		1304030.10	1305771.30	1286572.90
95 Mo #3	2.662	2.662	ug/l	2.41	1800.00		10516.72	10209.89	10319.88
107 Ag #3	0.4827	0.4827	ug/l	3.03	100.00		5374.35	5157.58	5397.66
111 Cd #3	2.817	2.817	ug/l	2.20	100.00		6452.38	6459.12	6749.24
118 Sn #3	12.61	12.61	ug/l	1.38	1800.00		93216.54	92364.71	92656.39
121 Sb #3	2.344	2.344	ug/l	1.83	100.00		20766.49	20476.05	20425.94
137 Ba #3	327.2	327.2	ug/l	0.68	1800.00		1261406.80	1274159.90	1265143.30
202 Hg #3	0.2113	0.2113	ug/l	8.44	5.00		733.02	841.42	749.02
205 Tl #3	0.4063	0.4063	ug/l	1.68	20.00		10557.17	11034.12	10850.73
208 Pb #3	204.3	204.3	ug/l	0.67	1800.00		7278787.50	7264166.50	7284880.50
232 Th #3	6.943	6.943	ug/l	0.61	#VALUE!		256758.91	255665.78	257614.94
238 U #3	2.717	2.717	ug/l	1.52	#VALUE!		103715.53	105353.72	104641.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	390673.72	0.40	442436.88	88.3	60 - 125		391323.44	388875.63	391822.13
45 Sc #1	483365.22	0.82	456299.72	105.9	60 - 125		479342.94	483524.22	487228.44
45 Sc #3	857332.31	0.57	765061.25	112.1	60 - 125		859624.88	851725.19	860646.94
74 Ge #1	142243.94	0.65	153441.28	92.7	60 - 125		141361.73	143199.31	142170.80
74 Ge #2	43597.51	0.33	47804.94	91.2	60 - 125		43439.35	43716.66	43636.53
74 Ge #3	211983.28	0.17	224564.78	94.4	60 - 125		211667.20	212372.20	211910.44
89 Y #3	1910259.80	0.50	1302847.50	146.6	60 - 125	IS I	1913228.80	1918013.10	1899537.90
115 In #3	1298945.50	0.92	1366177.60	95.1	60 - 125		1285129.00	1305230.50	1306477.10
159 Tb #3	1930986.40	0.60	2052817.90	94.1	60 - 125		1917766.30	1939475.00	1935717.90
209 Bi #3	1235777.80	0.98	1405468.50	87.9	60 - 125		1236078.30	1223462.50	1247792.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\315SMPL.D\315SMPL.D#
 Date Acquired: Aug 26 2014 12:46 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-3-a
 Misc Info: 3050 1/5
 Vial Number: 2109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.416	2.416	ug/l	2.40	100.00		3960.51	4170.55	4090.53
11 B # 3	4.503	4.503	ug/l	3.29	1800.00		8241.97	8155.22	7931.82
23 Na # 1	37.29	37.29	ug/l	23.00	81000.00		282617.47	282498.34	275852.44
24 Mg # 1	1633	1633	ug/l	14.09	81000.00		5010578.50	5000260.50	4804682.00
27 Al # 1	25020	25020	ug/l	14.80	81000.00		90763528.00	91902712.00	86519392.00
39 K # 2	2047	2047	ug/l	0.58	81000.00		684627.69	687797.25	687125.25
40 Ca # 1	8132	8132	ug/l	14.25	81000.00		68560616.00	68534696.00	65587920.00
47 Ti # 3	101.5	101.5	ug/l	0.89	1620.00		139057.69	138009.56	137449.72
51 V # 2	74.47	74.47	ug/l	0.71	1800.00		190430.44	191087.44	191483.81
52 Cr # 2	63.57	63.57	ug/l	0.90	1800.00		197768.56	196768.20	198354.41
55 Mn # 3	2207	2207	ug/l	0.62	1800.00	Fail	40811568.00	40744468.00	40515736.00
56 Fe # 1	53090	53090	ug/l	14.54	81000.00		584915650.00	584647100.00	556453570.00
59 Co # 3	23.92	23.92	ug/l	0.94	1800.00		336253.06	333012.13	332614.31
60 Ni # 2	27.62	27.62	ug/l	0.82	1800.00		31799.49	31768.32	31954.20
63 Cu # 2	46.97	46.97	ug/l	0.70	1800.00		147729.95	149557.44	148734.84
66 Zn # 3	806.1	806.1	ug/l	0.69	1800.00		1641890.00	1632237.90	1633029.90
75 As # 2	37.63	37.63	ug/l	0.21	100.00		12668.39	12717.10	12630.37
78 Se # 1	1.111	1.111	ug/l	12.78	100.00		323.67	310.00	314.34
88 Sr # 3	31.84	31.84	ug/l	1.56	1800.00		1152594.50	1138114.00	1162543.40
95 Mo # 3	4.006	4.006	ug/l	2.04	1800.00		15630.59	15427.13	15810.77
107 Ag # 3	0.3157	0.3157	ug/l	7.42	100.00		3383.76	3420.44	3810.52
111 Cd # 3	2.171	2.171	ug/l	0.79	100.00		5020.78	5147.49	5090.73
118 Sn # 3	11.2	11.2	ug/l	0.46	1800.00		82827.33	83396.97	82854.63
121 Sb # 3	0.8351	0.8351	ug/l	1.64	100.00		7408.51	7335.11	7455.16
137 Ba # 3	336.2	336.2	ug/l	1.08	1800.00		1320665.00	1311332.80	1299360.00
202 Hg # 3	0.3321	0.3321	ug/l	6.40	5.00		1183.22	1081.04	1178.17
205 Tl # 3	0.4869	0.4869	ug/l	1.02	20.00		12742.15	13169.15	12858.89
208 Pb # 3	285.8	285.8	ug/l	0.60	1800.00		10131866.00	10202753.00	10201158.00
232 Th # 3	12.1	12.1	ug/l	0.18	#VALUE!		445684.78	446570.88	446935.47
238 U # 3	2.232	2.232	ug/l	0.23	#VALUE!		85719.28	85638.50	85903.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389719.09	0.45	442436.88	88.1	60 - 125		388069.72	389510.50	391577.06
45 Sc # 1	567184.06	12.81	456299.72	124.3	60 - 125		525858.81	524647.94	651045.44
45 Sc # 3	924743.19	0.84	765061.25	120.9	60 - 125		923876.00	932894.69	917458.94
74 Ge # 1	154740.09	12.06	153441.28	100.8	60 - 125		143800.72	144132.22	176287.38
74 Ge # 2	44246.09	0.51	47804.94	92.6	60 - 125		44305.90	44433.96	43998.41
74 Ge # 3	215088.80	0.37	224564.78	95.8	60 - 125		214242.25	215796.25	215227.92
89 Y # 3	1860834.50	0.71	1302847.50	142.8	60 - 125	IS I	1873117.30	1862658.10	1846728.50
115 In # 3	1307702.10	0.84	1366177.60	95.7	60 - 125		1302286.00	1320400.10	1300420.10
159 Tb # 3	1931367.60	0.73	2052817.90	94.1	60 - 125		1922600.60	1947534.80	1923967.60
209 Bi # 3	1233917.10	0.08	1405468.50	87.8	60 - 125		1233789.60	1234955.40	1233006.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\316SMPL.D\316SMPL.D#
 Date Acquired: Aug 26 2014 12:54 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-4-a
 Misc Info: 3050 1/5
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.911	2.911	ug/l	5.03	100.00		4630.68	4223.90	4203.89
11 B # 3	10.27	10.27	ug/l	1.29	1800.00		14215.52	13798.55	13871.87
23 Na # 1	127.2	127.2	ug/l	5.04	81000.00		541689.56	529649.50	525355.56
24 Mg # 1	2284	2284	ug/l	3.35	81000.00		5505538.50	5534463.50	5478171.50
27 Al # 1	18750	18750	ug/l	3.58	81000.00		53876980.00	53805312.00	53197784.00
39 K # 2	1724	1724	ug/l	1.82	81000.00		517848.38	517008.00	507551.66
40 Ca # 1	17190	17190	ug/l	3.60	81000.00		114447440.00	114107450.00	112865960.00
47 Ti # 3	282	282	ug/l	0.57	1620.00		308348.34	302976.88	298850.94
51 V # 2	135.5	135.5	ug/l	1.90	1800.00		310727.56	308720.03	303928.41
52 Cr # 2	167.1	167.1	ug/l	1.95	1800.00		464206.94	461666.66	453564.00
55 Mn # 3	4464	4464	ug/l	1.58	1800.00	Fail	72767696.00	71548680.00	70783424.00
56 Fe # 1	89890	89890	ug/l	3.54	81000.00	Fail	778636160.00	780611070.00	770866110.00
59 Co # 3	34.94	34.94	ug/l	1.49	1800.00		432104.28	422684.56	420345.47
60 Ni # 2	24.39	24.39	ug/l	0.65	1800.00		24817.75	25069.22	24877.85
63 Cu # 2	147.8	147.8	ug/l	1.47	1800.00		415557.00	415888.25	409836.72
66 Zn # 3	1291	1291	ug/l	1.71	1800.00		2323765.50	2271412.30	2251246.00
75 As # 2	55.85	55.85	ug/l	2.14	100.00		16841.08	16745.99	16388.34
78 Se # 1	1.573	1.573	ug/l	2.30	100.00		378.34	370.00	380.67
88 Sr # 3	47.39	47.39	ug/l	1.58	1800.00		1633779.40	1591495.10	1569131.90
95 Mo # 3	3.548	3.548	ug/l	1.37	1800.00		12658.16	12364.61	12668.18
107 Ag # 3	0.6334	0.6334	ug/l	1.92	100.00		6438.02	6364.70	6184.58
111 Cd # 3	3.136	3.136	ug/l	4.81	100.00		6431.95	7018.90	6525.26
118 Sn # 3	77.42	77.42	ug/l	1.40	1800.00		525661.44	515224.56	509399.72
121 Sb # 3	2.5	2.5	ug/l	2.06	100.00		20435.91	20078.77	19544.85
137 Ba # 3	448.1	448.1	ug/l	1.24	1800.00		1607815.00	1581397.00	1562488.90
202 Hg # 3	0.4383	0.4383	ug/l	16.38	5.00		1399.65	1588.98	1190.05
205 Tl # 3	0.5476	0.5476	ug/l	1.53	20.00		13959.89	13572.84	13579.53
208 Pb # 3	511.1	511.1	ug/l	0.91	1800.00		17293876.00	17168234.00	17108830.00
232 Th # 3	7.355	7.355	ug/l	2.95	#VALUE!		264363.16	259801.73	256174.86
238 U # 3	2.449	2.449	ug/l	2.53	#VALUE!		91361.19	89613.69	89439.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	345546.63	0.50	442436.88	78.1	60 - 125		347521.69	344629.44	344488.69
45 Sc # 1	446995.16	2.95	456299.72	98.0	60 - 125		439718.81	439071.44	462195.22
45 Sc # 3	730846.00	1.61	765061.25	95.5	60 - 125		744365.56	725146.31	723026.00
74 Ge # 1	131452.31	2.36	153441.28	85.7	60 - 125		128874.56	130588.55	134893.81
74 Ge # 2	39211.69	0.94	47804.94	82.0	60 - 125		38787.81	39454.80	39392.45
74 Ge # 3	187416.06	0.78	224564.78	83.5	60 - 125		188088.83	185746.17	188413.19
89 Y # 3	1735555.40	1.13	1302847.50	133.2	60 - 125	IS I	1755210.80	1715928.50	1735526.80
115 In # 3	1185943.40	0.20	1366177.60	86.8	60 - 125		1188471.90	1185481.50	1183876.90
159 Tb # 3	1824034.40	0.75	2052817.90	88.9	60 - 125		1829502.60	1808563.80	1834036.30
209 Bi # 3	1182373.60	1.36	1405468.50	84.1	60 - 125		1165134.00	1184947.80	1197039.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\317_CCV.D\317_CCV.D#
 Date Acquired: Aug 26 2014 01:01 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.16 ug/l	0.54	50.00	89.5 - 110		71215.88	71175.48	72249.48
11 B	96.56 ug/l	0.57	100.00	89.5 - 110		112519.58	112308.38	111993.19
23 Na	5062 ug/l	0.48	5000.00	89.5 - 110		13611225.00	13595588.00	13654930.00
24 Mg	5046 ug/l	0.47	5000.00	89.5 - 110		9363902.00	9498952.00	9557902.00
27 Al	519.8 ug/l	0.20	500.00	89.5 - 110		1153303.00	1157525.00	1167142.50
39 K	4683 ug/l	1.12	5000.00	89.5 - 110		1321924.50	1342892.10	1364811.30
40 Ca	5224 ug/l	0.25	5000.00	89.5 - 110		26824230.00	26905518.00	27155906.00
47 Ti	50.8 ug/l	0.75	50.00	89.5 - 110		45335.22	46023.48	46474.77
51 V	47.35 ug/l	0.48	50.00	89.5 - 110		103937.69	105298.64	105880.83
52 Cr	47.19 ug/l	0.45	50.00	89.5 - 110		125941.20	127142.79	127507.37
55 Mn	499.2 ug/l	0.38	500.00	89.5 - 110		8069311.50	8103051.50	8213857.50
56 Fe	5456 ug/l	0.38	5000.00	89.5 - 110		36621368.00	36604756.00	36955420.00
59 Co	48.17 ug/l	0.38	50.00	89.5 - 110		590561.69	592842.63	598525.31
60 Ni	48.63 ug/l	0.85	50.00	89.5 - 110		48183.48	48298.20	48762.72
63 Cu	47.61 ug/l	0.54	50.00	89.5 - 110		129240.20	130400.58	131120.66
66 Zn	48.59 ug/l	0.34	50.00	89.5 - 110		86694.13	88030.39	88103.81
75 As	49.34 ug/l	0.76	50.00	89.5 - 110		14236.54	14336.29	14489.75
78 Se	50.85 ug/l	0.42	50.00	89.5 - 110		10893.28	11079.04	11089.39
88 Sr	48.65 ug/l	1.15	50.00	89.5 - 110		1064725.40	1088458.40	1069016.10
95 Mo	48.51 ug/l	1.51	50.00	89.5 - 110		168721.83	171904.42	173308.13
107 Ag	47.12 ug/l	0.91	50.00	89.5 - 110		461274.88	465773.53	468305.19
111 Cd	48.35 ug/l	1.11	50.00	89.5 - 110		102227.77	102592.55	104469.73
118 Sn	48.79 ug/l	0.82	50.00	89.5 - 110		325576.81	328846.91	328142.84
121 Sb	47.87 ug/l	0.45	50.00	89.5 - 110		383481.59	384274.41	386059.16
137 Ba	48.65 ug/l	1.15	50.00	89.5 - 110		172531.66	170630.42	175411.19
202 Hg	2.589 ug/l	0.45	2.50	89.5 - 110		7404.73	7398.39	7389.39
205 Tl	9.584 ug/l	0.20	10.00	89.5 - 110		228165.47	228488.91	228817.83
208 Pb	48.27 ug/l	0.10	50.00	89.5 - 110		1562231.00	1566581.00	1572990.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	336417.38	0.39	442436.88	76.0	60 - 125		336409.38	335103.56	337739.22
45 Sc	347956.06	0.58	456299.72	76.3	60 - 125		345802.31	348231.09	349834.78
45 Sc	613415.94	0.69	765061.25	80.2	60 - 125		608560.06	616415.50	615272.25
74 Ge	124766.02	0.60	153441.28	81.3	60 - 125		123903.97	125292.17	125101.92
74 Ge	38242.20	0.94	47804.94	80.0	60 - 125		37835.83	38522.79	38367.98
74 Ge	189994.70	0.94	224564.78	84.6	60 - 125		188108.89	190215.42	191659.77
89 Y	1136149.00	0.74	1302847.50	87.2	60 - 125		1126996.50	1137911.60	1143538.60
115 In	1191923.30	0.35	1366177.60	87.2	60 - 125		1194595.00	1187081.60	1194092.90
159 Tb	1759788.30	0.34	2052817.90	85.7	60 - 125		1753271.60	1761001.60	1765091.90
209 Bi	1174880.80	0.32	1405468.50	83.6	60 - 125		1170646.40	1177646.10	1176349.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\318_CCB.D\318_CCB.D#
 Date Acquired: Aug 26 2014 01:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.009055	0.009055	ug/l	99.49	#VALUE!		30.00	6.67	6.67
11 B #3	1.597	1.597	ug/l	9.79	#VALUE!		3713.77	4007.18	3667.10
23 Na #1	-12.36	-12.36	ug/l	0.72	#VALUE!		42176.67	42176.59	42447.25
24 Mg #1	0.2586	0.2586	ug/l	2.01	#VALUE!		1366.76	1360.09	1373.42
27 Al #1	0.5324	0.5324	ug/l	14.01	#VALUE!		2700.27	2386.89	2516.91
39 K #2	-11.9	-11.9	ug/l	8.49	#VALUE!		7518.38	7314.98	7838.48
40 Ca #1	0.9566	0.9566	ug/l	10.77	#VALUE!		25898.25	25945.03	25337.46
47 Ti #3	-0.05223	-0.05223	ug/l	23.09	#VALUE!		30.00	50.00	50.00
51 V #2	-0.02648	-0.02648	ug/l	11.38	#VALUE!		137.78	144.45	130.00
52 Cr #2	-0.02028	-0.02028	ug/l	25.12	#VALUE!		206.67	233.34	233.34
55 Mn #3	0.07895	0.07895	ug/l	10.05	#VALUE!		2396.90	2683.60	2623.60
56 Fe #1	2.894	2.894	ug/l	4.71	#VALUE!		24263.17	23725.75	22804.59
59 Co #3	0.0002745	0.0002745	ug/l	366.85	#VALUE!		50.00	63.34	76.67
60 Ni #2	-0.006282	-0.006282	ug/l	199.14	#VALUE!		45.56	22.22	41.11
63 Cu #2	-0.04023	-0.04023	ug/l	12.11	#VALUE!		245.56	275.56	253.34
66 Zn #3	-0.05985	-0.05985	ug/l	34.55	#VALUE!		426.68	406.68	486.69
75 As #2	-0.0009636	-0.0009636	ug/l	432.23	#VALUE!		12.00	11.33	13.67
78 Se #1	-0.03355	-0.03355	ug/l	6.41	#VALUE!		10.33	9.67	9.67
88 Sr #3	0.002237	0.002237	ug/l	36.87	#VALUE!		190.01	210.01	173.34
95 Mo #3	0.02579	0.02579	ug/l	29.00	#VALUE!		226.68	190.01	176.67
107 Ag #3	0.0003684	0.0003684	ug/l	274.70	#VALUE!		106.67	113.34	126.67
111 Cd #3	-0.0001639	-0.0001639	ug/l	1437.50	#VALUE!		6.62	-0.04	9.96
118 Sn #3	0.1236	0.1236	ug/l	11.25	#VALUE!		1543.44	1543.45	1376.77
121 Sb #3	0.02112	0.02112	ug/l	11.99	#VALUE!		226.68	213.34	186.67
137 Ba #3	0.007838	0.007838	ug/l	48.10	#VALUE!		63.34	50.00	76.67
202 Hg #3	0.01582	0.01582	ug/l	12.12	#VALUE!		158.00	161.34	152.00
205 Tl #3	-0.002594	-0.002594	ug/l	17.40	#VALUE!		110.00	126.67	106.67
208 Pb #3	0.01873	0.01873	ug/l	280.57	#VALUE!		3856.91	926.71	876.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	347255.47	0.30	442436.88	78.5	60 - 125		346151.81	347411.00	348203.59
45 Sc #1	358297.69	0.89	456299.72	78.5	60 - 125		355265.31	358007.19	361620.66
45 Sc #3	618824.81	1.59	765061.25	80.9	60 - 125		607770.38	622052.81	626651.19
74 Ge #1	127942.37	0.92	153441.28	83.4	60 - 125		126602.98	128438.45	128785.66
74 Ge #2	38823.07	0.83	47804.94	81.2	60 - 125		38500.49	39141.94	38826.79
74 Ge #3	191860.72	1.26	224564.78	85.4	60 - 125		189484.55	191770.61	194327.02
89 Y #3	1149897.30	0.92	1302847.50	88.3	60 - 125		1137719.40	1154952.40	1157020.30
115 In #3	1211265.90	0.74	1366177.60	88.7	60 - 125		1203615.30	1221177.60	1209004.60
159 Tb #3	1778275.10	0.67	2052817.90	86.6	60 - 125		1766568.50	1777919.80	1790337.30
209 Bi #3	1192475.40	0.72	1405468.50	84.8	60 - 125		1182772.10	1195319.80	1199334.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\319SMPL.D\319SMPL.D#
 Date Acquired: Aug 26 2014 01:16 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-5-a
 Misc Info: 3050 1/5
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	5.602	5.602	ug/l	1.93	100.00		7845.10	8118.56	8001.81
11 B # 3	4.831	4.831	ug/l	2.68	1800.00		7298.22	7024.77	7358.22
23 Na # 1	73.92	73.92	ug/l	9.49	81000.00		377333.78	380993.94	372639.84
24 Mg # 1	1958	1958	ug/l	7.15	81000.00		5124353.50	5139131.50	5021885.00
27 Al # 1	23550	23550	ug/l	7.30	81000.00		73295336.00	73318224.00	71547224.00
39 K # 2	1644	1644	ug/l	0.38	81000.00		457490.78	464487.91	464474.38
40 Ca # 1	10830	10830	ug/l	7.20	81000.00		77741872.00	78221896.00	76233888.00
47 Ti # 3	176.9	176.9	ug/l	0.15	1620.00		208635.70	210790.95	208789.38
51 V # 2	186.8	186.8	ug/l	0.44	1800.00		395742.28	402163.16	400913.16
52 Cr # 2	168.9	168.9	ug/l	0.10	1800.00		435356.38	437867.25	439818.59
55 Mn # 3	7302	7302	ug/l	1.07	1800.00	Fail	111063360.00	112244340.00	111356220.00
56 Fe # 1	129600	129600	ug/l	6.62	81000.00	Fail	1206971500.00	1222058600.00	1199892700.00
59 Co # 3	66.55	66.55	ug/l	0.56	1800.00		765351.94	771007.38	773490.19
60 Ni # 2	33.64	33.64	ug/l	0.53	1800.00		32110.06	32587.47	32348.20
63 Cu # 2	41.2	41.2	ug/l	0.62	1800.00		108562.24	108260.53	109797.27
66 Zn # 3	430.3	430.3	ug/l	0.12	1800.00		721661.13	719317.69	730799.75
75 As # 2	70.39	70.39	ug/l	0.37	100.00		19628.51	19736.96	19938.84
78 Se # 1	2.067	2.067	ug/l	9.27	100.00		485.34	464.67	458.01
88 Sr # 3	18.79	18.79	ug/l	0.46	1800.00		738515.06	740175.75	744790.63
95 Mo # 3	6.676	6.676	ug/l	0.56	1800.00		22531.48	22468.02	22548.14
107 Ag # 3	0.3269	0.3269	ug/l	0.93	100.00		3123.70	3187.05	3210.39
111 Cd # 3	0.9804	0.9804	ug/l	5.36	100.00		2105.24	1931.88	1945.20
118 Sn # 3	9.258	9.258	ug/l	1.07	1800.00		59576.07	58970.55	60301.94
121 Sb # 3	1.669	1.669	ug/l	0.82	100.00		12648.31	12928.49	12795.09
137 Ba # 3	370.8	370.8	ug/l	0.71	1800.00		1242756.00	1264873.00	1251558.80
202 Hg # 3	0.1151	0.1151	ug/l	19.84	5.00		397.01	402.01	510.75
205 Tl # 3	0.8944	0.8944	ug/l	0.80	20.00		21441.65	21528.48	21728.70
208 Pb # 3	223.7	223.7	ug/l	0.69	1800.00		7244247.50	7282170.00	7334381.50
232 Th # 3	16.31	16.31	ug/l	0.41	#VALUE!		519199.06	524132.06	521362.75
238 U # 3	4.295	4.295	ug/l	0.43	#VALUE!		141511.06	143345.67	144228.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	329645.50	0.58	442436.88	74.5	60 - 125		329129.31	328034.69	331772.44
45 Sc # 1	481673.41	6.16	456299.72	106.0	60 - 125		465013.03	467970.97	518036.22
45 Sc # 3	804266.50	0.43	765061.25	105.1	60 - 125		802353.50	808257.25	802188.63
74 Ge # 1	126642.77	6.96	153441.28	82.5	60 - 125		121809.96	121295.25	136823.13
74 Ge # 2	36923.56	0.55	47804.94	77.2	60 - 125		36696.82	36980.71	37093.15
74 Ge # 3	178284.45	0.73	224564.78	79.4	60 - 125		177685.48	177384.30	179783.58
89 Y # 3	2029536.00	0.78	1302847.50	155.8	60 - 125	IS I	2025128.90	2016363.10	2047115.80
115 In # 3	1133941.50	0.52	1366177.60	83.0	60 - 125		1127413.00	1135484.10	1138927.30
159 Tb # 3	1766651.90	0.55	2052817.90	86.1	60 - 125		1757768.90	1776915.10	1765271.30
209 Bi # 3	1069539.00	0.54	1405468.50	76.1	60 - 125		1063003.00	1071443.40	1074170.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\320SMPL.D\320SMPL.D#
 Date Acquired: Aug 26 2014 01:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-6-a
 Misc Info: 3050 1/5
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.775	4.775	ug/l	2.89	100.00		6674.62	6711.31	6444.55
11 B # 3	2.916	2.916	ug/l	0.62	1800.00		4907.41	4927.44	4964.08
23 Na # 1	21.68	21.68	ug/l	26.77	81000.00		174057.00	177976.48	177017.86
24 Mg # 1	1056	1056	ug/l	12.04	81000.00		2599204.30	2672193.80	2666835.80
27 Al # 1	27290	27290	ug/l	12.91	81000.00		78921032.00	82631128.00	81628352.00
39 K # 2	1340	1340	ug/l	0.69	81000.00		365942.47	360405.56	364527.19
40 Ca # 1	4358	4358	ug/l	12.50	81000.00		29328260.00	30442540.00	30219946.00
47 Ti # 3	127.9	127.9	ug/l	0.46	1620.00		150184.59	148925.52	149392.66
51 V # 2	188.8	188.8	ug/l	0.75	1800.00		386958.88	389348.59	386917.97
52 Cr # 2	208.2	208.2	ug/l	0.51	1800.00		518505.81	518038.13	517607.56
55 Mn # 3	5823	5823	ug/l	0.94	1800.00	Fail	86727384.00	86556200.00	86266016.00
56 Fe # 1	123100	123100	ug/l	12.54	81000.00	Fail	1078345600.00	1120174300.00	1115825800.00
59 Co # 3	66.88	66.88	ug/l	1.21	1800.00		758944.06	750495.75	748104.75
60 Ni # 2	33.46	33.46	ug/l	0.48	1800.00		30828.95	30946.93	30925.78
63 Cu # 2	19.93	19.93	ug/l	0.49	1800.00		50708.08	50780.52	50729.25
66 Zn # 3	105.5	105.5	ug/l	1.32	1800.00		175036.36	172006.09	171989.27
75 As # 2	65.35	65.35	ug/l	0.77	100.00		17749.94	17532.06	17590.78
78 Se # 1	1.507	1.507	ug/l	9.95	100.00		326.34	316.00	339.67
88 Sr # 3	10.11	10.11	ug/l	0.94	1800.00		367573.78	361618.00	362061.50
95 Mo # 3	4.958	4.958	ug/l	1.10	1800.00		16261.19	16334.57	16297.85
107 Ag # 3	0.1076	0.1076	ug/l	6.21	100.00		1096.74	1130.07	1026.73
111 Cd # 3	0.2544	0.2544	ug/l	10.09	100.00		456.44	549.77	516.44
118 Sn # 3	4.09	4.09	ug/l	1.91	1800.00		26497.36	25799.75	25592.78
121 Sb # 3	1.236	1.236	ug/l	0.64	100.00		9312.77	9065.99	9302.78
137 Ba # 3	199.8	199.8	ug/l	0.55	1800.00		662351.44	652381.56	657136.63
202 Hg # 3	0.07798	0.07798	ug/l	11.89	5.00		345.69	295.67	328.02
205 Tl # 3	0.5199	0.5199	ug/l	0.15	20.00		12261.75	12261.73	12321.73
208 Pb # 3	99.64	99.64	ug/l	0.95	1800.00		3181639.00	3158880.00	3146585.80
232 Th # 3	20.08	20.08	ug/l	1.64	#VALUE!		624903.88	617864.06	609216.88
238 U # 3	3.999	3.999	ug/l	1.43	#VALUE!		129402.27	128083.56	126672.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	320037.63	0.72	442436.88	72.3	60 - 125		319266.38	318229.22	322617.25
45 Sc # 1	468284.50	10.89	456299.72	102.6	60 - 125		523142.13	422267.47	459443.88
45 Sc # 3	793563.50	0.68	765061.25	103.7	60 - 125		799396.31	792475.56	788818.75
74 Ge # 1	119846.14	10.36	153441.28	78.1	60 - 125		133308.91	108834.83	117394.68
74 Ge # 2	35452.92	0.45	47804.94	74.2	60 - 125		35408.76	35321.90	35628.10
74 Ge # 3	173386.38	0.73	224564.78	77.2	60 - 125		173204.69	172225.80	174728.67
89 Y # 3	1851398.90	0.52	1302847.50	142.1	60 - 125	IS I	1854571.60	1858973.80	1840651.60
115 In # 3	1103714.30	0.90	1366177.60	80.8	60 - 125		1108311.80	1092323.00	1110508.00
159 Tb # 3	1720835.10	0.41	2052817.90	83.8	60 - 125		1715308.10	1718412.60	1728784.80
209 Bi # 3	1028418.90	0.41	1405468.50	73.2	60 - 125		1026060.90	1025933.90	1033261.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\321SMPL.D\321SMPL.D#
 Date Acquired: Aug 26 2014 01:30 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-7-a
 Misc Info: 3050 1/5
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.338	4.338	ug/l	2.53	100.00		6094.43	5964.39	5774.33
11 B # 3	2.897	2.897	ug/l	7.63	1800.00		4613.99	4907.42	5060.76
23 Na # 1	23.48	23.48	ug/l	2.35	81000.00		183469.48	182195.55	181475.30
24 Mg # 1	1225	1225	ug/l	0.12	81000.00		3049756.00	3063594.00	3074944.30
27 Al # 1	27440	27440	ug/l	0.58	81000.00		81427016.00	81456024.00	81328696.00
39 K # 2	1277	1277	ug/l	0.46	81000.00		351897.66	354916.09	354537.81
40 Ca # 1	5104	5104	ug/l	0.68	81000.00		35101272.00	35139492.00	34988304.00
47 Ti # 3	116.1	116.1	ug/l	0.46	1620.00		136901.63	133930.33	134195.03
51 V # 2	198.7	198.7	ug/l	1.45	1800.00		418031.53	417516.69	412794.91
52 Cr # 2	188.4	188.4	ug/l	1.73	1800.00		482231.19	478457.47	473599.78
55 Mn # 3	4428	4428	ug/l	1.33	1800.00	Fail	66932492.00	65570632.00	64420352.00
56 Fe # 1	133700	133700	ug/l	0.67	81000.00	Fail	1196059800.00	1189866100.00	1208197000.00
59 Co # 3	55.72	55.72	ug/l	1.09	1800.00		636270.31	624308.06	615595.63
60 Ni # 2	28.81	28.81	ug/l	2.18	1800.00		27395.81	27330.14	26678.16
63 Cu # 2	19.08	19.08	ug/l	0.51	1800.00		49245.33	49791.26	49595.16
66 Zn # 3	111.4	111.4	ug/l	0.40	1800.00		183683.94	182973.84	180045.52
75 As # 2	67.92	67.92	ug/l	1.88	100.00		18795.96	18815.32	18415.59
78 Se # 1	1.831	1.831	ug/l	1.98	100.00		402.01	388.67	389.67
88 Sr # 3	10.39	10.39	ug/l	1.28	1800.00		362458.38	354638.16	354525.94
95 Mo # 3	5.225	5.225	ug/l	0.22	1800.00		17031.89	17041.82	16941.79
107 Ag # 3	0.1181	0.1181	ug/l	9.46	100.00		1133.41	1286.76	1090.07
111 Cd # 3	0.2425	0.2425	ug/l	12.83	100.00		542.95	419.60	476.29
118 Sn # 3	3.875	3.875	ug/l	1.13	1800.00		24768.17	24414.38	24000.44
121 Sb # 3	1.359	1.359	ug/l	1.55	100.00		10043.19	9926.47	10159.96
137 Ba # 3	155.1	155.1	ug/l	1.07	1800.00		513158.38	505587.91	497588.28
202 Hg # 3	0.08117	0.08117	ug/l	14.46	5.00		316.67	364.37	305.00
205 Tl # 3	0.4273	0.4273	ug/l	2.59	20.00		10050.12	10243.65	9786.64
208 Pb # 3	84.07	84.07	ug/l	1.50	1800.00		2680953.30	2626380.00	2620835.30
232 Th # 3	18.2	18.2	ug/l	1.39	#VALUE!		563635.00	556687.94	548060.88
238 U # 3	4.462	4.462	ug/l	1.16	#VALUE!		142963.27	142906.36	140117.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	316691.28	0.27	442436.88	71.6	60 - 125		317653.41	316045.09	316375.31
45 Sc # 1	463316.00	0.52	456299.72	101.5	60 - 125		460715.97	463732.34	465499.63
45 Sc # 3	789588.88	0.79	765061.25	103.2	60 - 125		796557.69	784660.56	787548.44
74 Ge # 1	118865.82	0.65	153441.28	77.5	60 - 125		118942.27	118062.16	119593.03
74 Ge # 2	36153.21	0.85	47804.94	75.6	60 - 125		35811.82	36245.98	36401.82
74 Ge # 3	172952.13	0.66	224564.78	77.0	60 - 125		173807.38	173389.02	171659.97
89 Y # 3	1767964.40	0.60	1302847.50	135.7	60 - 125	IS I	1770885.10	1756180.10	1776827.90
115 In # 3	1093005.60	0.49	1366177.60	80.0	60 - 125		1097470.90	1094428.30	1087117.80
159 Tb # 3	1704260.10	0.32	2052817.90	83.0	60 - 125		1700262.50	1702128.30	1710389.40
209 Bi # 3	1022044.40	0.07	1405468.50	72.7	60 - 125		1022617.80	1021312.70	1022203.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\322SMPL.D\322SMPL.D#
 Date Acquired: Aug 26 2014 01:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-8-a
 Misc Info: 3050 1/5
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.641	4.641	ug/l	2.61	100.00		6237.83	6574.62	6437.89
11 B # 3	2.488	2.488	ug/l	3.35	1800.00		4460.61	4380.62	4543.99
23 Na # 1	17.54	17.54	ug/l	1.69	81000.00		170799.14	169467.84	170143.88
24 Mg # 1	1048	1048	ug/l	0.61	81000.00		2744419.80	2792529.30	2763467.50
27 Al # 1	30760	30760	ug/l	0.19	81000.00		96265584.00	96393976.00	96239784.00
39 K # 2	1292	1292	ug/l	1.48	81000.00		364476.59	363096.50	359821.84
40 Ca # 1	4356	4356	ug/l	0.26	81000.00		31434020.00	31694820.00	31650732.00
47 Ti # 3	90.64	90.64	ug/l	0.76	1620.00		112535.41	111529.54	111908.59
51 V # 2	213.2	213.2	ug/l	1.01	1800.00		452586.78	453565.41	450802.28
52 Cr # 2	171.5	171.5	ug/l	1.00	1800.00		440748.38	441127.00	440810.97
55 Mn # 3	10360	10360	ug/l	0.64	1800.00	Fail	154100590.00	153574910.00	152885570.00
56 Fe # 1	136700	136700	ug/l	0.22	81000.00	Fail	1293398100.00	1297115500.00	1289837200.00
59 Co # 3	82.08	82.08	ug/l	1.16	1800.00		929512.88	923256.94	909153.75
60 Ni # 2	34.9	34.9	ug/l	1.13	1800.00		33341.05	33307.70	33215.31
63 Cu # 2	19.11	19.11	ug/l	1.18	1800.00		50381.74	50342.70	50047.45
66 Zn # 3	81.52	81.52	ug/l	1.22	1800.00		134443.77	132443.47	133232.09
75 As # 2	79.86	79.86	ug/l	1.09	100.00		22260.16	22244.48	22221.12
78 Se # 1	1.666	1.666	ug/l	0.85	100.00		359.34	364.67	368.67
88 Sr # 3	12.15	12.15	ug/l	0.72	1800.00		396215.63	395954.19	392840.09
95 Mo # 3	7.521	7.521	ug/l	1.96	1800.00		24033.50	24490.65	24567.48
107 Ag # 3	0.09879	0.09879	ug/l	15.26	100.00		936.72	1150.07	890.05
111 Cd # 3	0.2619	0.2619	ug/l	6.61	100.00		511.40	487.97	547.96
118 Sn # 3	3.764	3.764	ug/l	1.60	1800.00		23399.64	23960.35	23566.53
121 Sb # 3	1.309	1.309	ug/l	2.41	100.00		9462.83	9716.39	9756.44
137 Ba # 3	380.1	380.1	ug/l	1.52	1800.00		1223873.40	1254137.00	1225950.30
202 Hg # 3	0.07629	0.07629	ug/l	17.47	5.00		288.34	354.36	291.34
205 Tl # 3	0.7229	0.7229	ug/l	4.25	20.00		16155.33	16352.21	17358.56
208 Pb # 3	91.03	91.03	ug/l	0.74	1800.00		2815140.30	2820342.00	2835087.80
232 Th # 3	22.63	22.63	ug/l	0.16	#VALUE!		678215.00	681117.44	679386.56
238 U # 3	6.136	6.136	ug/l	0.88	#VALUE!		192937.56	190193.41	192628.77

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	319616.13	0.20	442436.88	72.2	60 - 125		319794.16	320158.28	318895.91
45 Sc # 1	488972.03	0.27	456299.72	107.2	60 - 125		487844.56	490397.81	488673.69
45 Sc # 3	838797.88	0.34	765061.25	109.6	60 - 125		836835.19	842044.38	837513.94
74 Ge # 1	120404.91	0.48	153441.28	78.5	60 - 125		119822.16	120420.66	120971.91
74 Ge # 2	36623.72	1.04	47804.94	76.6	60 - 125		36223.67	36982.97	36664.53
74 Ge # 3	172839.17	0.52	224564.78	77.0	60 - 125		172293.55	173880.81	172343.17
89 Y # 3	1671996.10	0.73	1302847.50	128.3	60 - 125	IS I	1685670.60	1662395.00	1667922.80
115 In # 3	1089921.80	0.85	1366177.60	79.8	60 - 125		1098097.10	1091822.60	1079845.50
159 Tb # 3	1681593.80	0.46	2052817.90	81.9	60 - 125		1680020.10	1690029.50	1674731.50
209 Bi # 3	1004557.30	0.11	1405468.50	71.5	60 - 125		1004419.70	1005711.60	1003540.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24K00.B\323SMPL.D\323SMPL.D#
 Date Acquired: Aug 26 2014 01:45 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-9-a
 Misc Info: 3050 1/5
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tuna Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	6.267	6.267	ug/l	3.08	100.00		8211.90	8545.43	8772.14
11 B #3	2.075	2.075	ug/l	2.71	1800.00		3897.17	3910.48	4013.84
23 Na #1	17.31	17.31	ug/l	36.05	81000.00		169536.19	176485.72	173005.63
24 Mg #1	1041	1041	ug/l	13.92	81000.00		2749481.30	2865155.30	2809816.50
27 Al #1	33180	33180	ug/l	14.20	81000.00		103390100.00	108366330.00	106663200.00
39 K #2	1272	1272	ug/l	0.30	81000.00		348496.47	345960.38	347733.44
40 Ca #1	4853	4853	ug/l	13.76	81000.00		35260280.00	36623644.00	36037168.00
47 Ti #3	101.7	101.7	ug/l	1.46	1620.00		125617.60	124744.63	123137.04
51 V #2	280.3	280.3	ug/l	0.58	1800.00		580826.50	580526.25	573928.13
52 Cr #2	172.9	172.9	ug/l	0.79	1800.00		435887.91	433644.00	428068.31
55 Mn #3	43160	43160	ug/l	0.76	1800.00	Fail	633026110.00	628983620.00	621185090.00
56 Fe #1	162700	162700	ug/l	14.14	81000.00	Fail	1527015200.00	1597873000.00	1592938600.00
59 Co #3	218.1	218.1	ug/l	1.03	1800.00		2417185.50	2425428.00	2364732.30
60 Ni #2	49.9	49.9	ug/l	1.30	1800.00		47084.00	46019.09	45798.52
63 Cu #2	19.96	19.96	ug/l	0.65	1800.00		51551.60	50921.98	50742.63
66 Zn #3	90.1	90.1	ug/l	1.26	1800.00		146539.38	145211.53	142332.84
75 As #2	102.4	102.4	ug/l	1.00	100.00	Fail	28006.67	27842.45	27395.09
78 Se #1	2.059	2.059	ug/l	12.88	100.00		439.67	450.01	434.67
88 Sr #3	19.34	19.34	ug/l	0.62	1800.00		609731.81	605787.44	601671.50
95 Mo #3	15.38	15.38	ug/l	0.29	1800.00		48827.66	48760.65	48068.72
107 Ag #3	0.1226	0.1226	ug/l	3.42	100.00		1213.42	1193.41	1130.07
111 Cd #3	0.9034	0.9034	ug/l	2.53	100.00		1769.40	1739.41	1666.22
118 Sn #3	3.711	3.711	ug/l	2.25	1800.00		23412.90	22468.53	22408.28
121 Sb #3	1.693	1.693	ug/l	4.19	100.00		11771.09	12107.85	12644.99
137 Ba #3	1912	1912	ug/l	0.59	1800.00	Fail	6123625.50	6053030.50	6013716.50
202 Hg #3	0.0971	0.0971	ug/l	19.61	5.00		318.34	416.75	347.01
205 Tl #3	3.099	3.099	ug/l	1.07	20.00		70343.22	69281.64	68752.71
208 Pb #3	237.5	237.5	ug/l	1.11	1800.00		7326595.00	7174306.50	7202853.00
232 Th #3	24.21	24.21	ug/l	0.75	#VALUE!		700646.00	695505.13	689732.88
238 U #3	7.486	7.486	ug/l	0.73	#VALUE!		225309.73	224303.59	222029.89

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	313868.66	0.30	442436.88	70.9	60 - 125		312806.31	314590.59	314209.06
45 Sc #1	505387.03	12.21	456299.72	110.8	60 - 125		571896.81	449984.94	494279.34
45 Sc #3	831259.13	1.12	765061.25	108.7	60 - 125		825015.19	841992.81	826769.44
74 Ge #1	120217.97	11.54	153441.28	78.3	60 - 125		135253.47	107911.77	117488.68
74 Ge #2	35636.58	0.19	47804.94	74.5	60 - 125		35712.60	35605.81	35591.32
74 Ge #3	169717.45	0.39	224564.78	75.6	60 - 125		169724.95	170367.73	169059.70
89 Y #3	1611365.00	0.40	1302847.50	123.7	60 - 125		1617422.50	1604714.30	1611958.40
115 In #3	1064074.60	0.58	1366177.60	77.9	60 - 125		1067749.30	1067575.10	1056899.80
159 Tb #3	1651652.10	0.17	2052817.90	80.5	60 - 125		1652707.50	1653814.80	1648434.10
209 Bi #3	960514.13	0.05	1405468.50	68.3	60 - 125		961015.50	960147.38	960379.56

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

4 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\324SMPL.D\324SMPL.D#
 Date Acquired: Aug 26 2014 01:53 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-10-a
 Misc Info: 3050 1/5
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.551	4.551	ug/l	2.71	100.00		6791.37	6444.57	6684.65
11 B # 3	4.378	4.378	ug/l	2.28	1800.00		6814.68	6968.10	6838.03
23 Na # 1	61.57	61.57	ug/l	19.49	81000.00		313063.66	310819.44	319279.25
24 Mg # 1	1767	1767	ug/l	13.51	81000.00		4355906.00	4307202.00	4431363.50
27 Al # 1	24220	24220	ug/l	14.02	81000.00		70384376.00	69945840.00	72631088.00
39 K # 2	1931	1931	ug/l	1.23	81000.00		549492.31	550095.44	553249.50
40 Ca # 1	11090	11090	ug/l	13.45	81000.00		74382376.00	74785256.00	76693864.00
47 Ti # 3	183.7	183.7	ug/l	0.77	1620.00		220453.48	221851.14	220591.88
51 V # 2	146.6	146.6	ug/l	1.45	1800.00		321047.28	318575.50	318765.00
52 Cr # 2	142.8	142.8	ug/l	1.40	1800.00		377453.91	375607.53	377820.97
55 Mn # 3	7425	7425	ug/l	0.21	1800.00	Fail	116566760.00	116344500.00	117283010.00
56 Fe # 1	103700	103700	ug/l	13.60	81000.00	Fail	919909120.00	903126910.00	931360510.00
59 Co # 3	60.25	60.25	ug/l	0.28	1800.00		718565.88	713504.25	719731.63
60 Ni # 2	30.98	30.98	ug/l	1.75	1800.00		30366.05	30107.82	30567.40
63 Cu # 2	35.52	35.52	ug/l	1.16	1800.00		95542.40	95570.37	95862.68
66 Zn # 3	367.6	367.6	ug/l	0.24	1800.00		634993.75	636857.69	637438.44
75 As # 2	54.6	54.6	ug/l	1.03	100.00		15615.66	15637.35	15614.33
78 Se # 1	1.55	1.55	ug/l	14.83	100.00		331.34	342.67	367.34
88 Sr # 3	18.97	18.97	ug/l	0.28	1800.00		702439.69	708253.19	708064.13
95 Mo # 3	4.557	4.557	ug/l	2.09	1800.00		15697.28	15830.78	15326.98
107 Ag # 3	0.2714	0.2714	ug/l	2.50	100.00		2750.29	2673.62	2646.94
111 Cd # 3	0.8942	0.8942	ug/l	1.29	100.00		1813.36	1846.67	1876.78
118 Sn # 3	5.326	5.326	ug/l	0.42	1800.00		34802.25	34952.59	35390.13
121 Sb # 3	1.256	1.256	ug/l	1.54	100.00		9579.61	9903.11	9823.07
137 Ba # 3	349.8	349.8	ug/l	0.26	1800.00		1191185.40	1199735.40	1206905.60
202 Hg # 3	0.08936	0.08936	ug/l	26.14	5.00		432.78	316.34	323.34
205 Tl # 3	0.6269	0.6269	ug/l	0.56	20.00		14864.05	14864.08	14970.88
208 Pb # 3	308.8	308.8	ug/l	0.77	1800.00		9807500.00	9857100.00	9974559.00
232 Th # 3	13.71	13.71	ug/l	0.92	#VALUE!		417445.00	420416.56	418153.16
238 U # 3	3.476	3.476	ug/l	0.47	#VALUE!		110663.83	109774.09	111140.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	337240.56	0.85	442436.88	76.2	60 - 125		335353.84	335832.41	340535.47
45 Sc # 1	462912.53	12.26	456299.72	101.4	60 - 125		456520.84	522568.53	409648.16
45 Sc # 3	817057.31	0.42	765061.25	106.8	60 - 125		818896.88	813061.63	819213.44
74 Ge # 1	123999.47	10.13	153441.28	80.8	60 - 125		122213.33	137360.80	112424.28
74 Ge # 2	37613.87	1.11	47804.94	78.7	60 - 125		37279.16	38080.73	37481.72
74 Ge # 3	183450.00	0.22	224564.78	81.7	60 - 125		183400.02	183079.47	183870.48
89 Y # 3	1915795.40	0.24	1302847.50	147.0	60 - 125	IS I	1911018.30	1916041.90	1920326.00
115 In # 3	1150163.00	0.46	1366177.60	84.2	60 - 125		1145842.90	1148646.50	1155999.60
159 Tb # 3	1735280.30	0.82	2052817.90	84.5	60 - 125		1737261.30	1720142.60	1748437.00
209 Bi # 3	1021025.40	0.55	1405468.50	72.6	60 - 125		1026430.80	1015201.60	1021443.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\325SMPL.D\325SMPL.D#
 Date Acquired: Aug 26 2014 02:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-11-a
 Misc Info: 3050 1/5
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	3.852	3.852	ug/l	4.15	100.00		5757.67	5540.92	5380.87
11 B # 3	2.314	2.314	ug/l	5.03	1800.00		4310.58	4443.96	4630.68
23 Na # 1	23.14	23.14	ug/l	1.86	81000.00		191598.50	191351.80	191325.41
24 Mg # 1	990.3	990.3	ug/l	1.09	81000.00		2625688.80	2603941.50	2619071.80
27 Al # 1	25700	25700	ug/l	0.57	81000.00		81224576.00	80500352.00	79979032.00
39 K # 2	1510	1510	ug/l	1.87	81000.00		439714.16	431405.94	422789.53
40 Ca # 1	5299	5299	ug/l	0.46	81000.00		38476248.00	38677064.00	38270228.00
47 Ti # 3	139.6	139.6	ug/l	1.53	1620.00		172561.44	170862.45	168527.75
51 V # 2	183.7	183.7	ug/l	0.75	1800.00		402145.34	398361.00	395026.72
52 Cr # 2	160.7	160.7	ug/l	0.94	1800.00		427442.72	420940.22	418826.66
55 Mn # 3	4480	4480	ug/l	1.98	1800.00	Fail	70214456.00	69332496.00	68499752.00
56 Fe # 1	118600	118600	ug/l	0.18	81000.00	Fail	1127196400.00	1128868900.00	1114342700.00
59 Co # 3	47.1	47.1	ug/l	1.69	1800.00		557199.19	551668.88	547459.44
60 Ni # 2	29.26	29.26	ug/l	0.08	1800.00		28583.21	28577.59	28470.78
63 Cu # 2	18.28	18.28	ug/l	0.08	1800.00		49269.82	49243.06	49065.97
66 Zn # 3	100.7	100.7	ug/l	1.14	1800.00		172574.09	172786.75	170898.39
75 As # 2	57.65	57.65	ug/l	0.41	100.00		16483.08	16470.08	16318.27
78 Se # 1	1.266	1.266	ug/l	1.56	100.00		294.00	290.67	282.67
88 Sr # 3	10.83	10.83	ug/l	1.15	1800.00		380700.50	378382.16	377357.28
95 Mo # 3	4.844	4.844	ug/l	0.26	1800.00		16207.78	16120.96	16237.76
107 Ag # 3	0.1248	0.1248	ug/l	3.00	100.00		1260.08	1296.75	1230.08
111 Cd # 3	0.2673	0.2673	ug/l	5.07	100.00		559.79	509.81	556.45
118 Sn # 3	3.653	3.653	ug/l	2.03	1800.00		23726.78	24027.07	23145.94
121 Sb # 3	1.128	1.128	ug/l	1.93	100.00		8448.97	8739.13	8512.36
137 Ba # 3	161.1	161.1	ug/l	0.60	1800.00		540684.56	540258.88	535321.88
202 Hg # 3	0.08384	0.08384	ug/l	11.73	5.00		334.00	307.67	366.02
205 Tl # 3	0.4241	0.4241	ug/l	2.44	20.00		9850.05	10163.59	9826.66
208 Pb # 3	87.41	87.41	ug/l	1.36	1800.00		2759048.30	2747920.80	2730219.30
232 Th # 3	19.31	19.31	ug/l	0.85	#VALUE!		583522.69	577973.75	577281.94
238 U # 3	3.848	3.848	ug/l	0.24	#VALUE!		120278.48	120213.52	120395.61

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	333686.34	0.77	442436.88	75.4	60 - 125		330740.00	334898.78	335420.31
45 Sc # 1	489520.16	0.88	456299.72	107.3	60 - 125		491659.56	492345.56	484555.41
45 Sc # 3	830018.44	0.36	765061.25	108.5	60 - 125		826738.25	830811.75	832505.31
74 Ge # 1	123975.52	0.58	153441.28	80.8	60 - 125		124715.69	123930.48	123280.38
74 Ge # 2	37447.62	0.15	47804.94	78.3	60 - 125		37491.79	37466.22	37384.85
74 Ge # 3	180636.95	1.00	224564.78	80.4	60 - 125		178799.16	182422.94	180688.77
89 Y # 3	1799170.80	0.74	1302847.50	138.1	60 - 125	IS I	1784457.50	1810224.50	1802830.60
115 In # 3	1121854.10	0.14	1366177.60	82.1	60 - 125		1123105.30	1120070.90	1122386.40
159 Tb # 3	1703112.00	0.85	2052817.90	83.0	60 - 125		1693145.40	1696425.40	1719765.10
209 Bi # 3	1004004.70	0.29	1405468.50	71.4	60 - 125		1001344.80	1003599.40	1007070.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\326SMPL.D\326SMPL.D#
 Date Acquired: Aug 26 2014 02:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-12-a
 Misc Info: 3050 1/5
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.641	7.641	ug/l	1.20	100.00		10589.79	10382.97	10709.84
11 B # 3	2.139	2.139	ug/l	2.30	1800.00		4063.87	4000.53	4180.54
23 Na # 1	4.18	4.18	ug/l	4.67	81000.00		139476.61	139752.48	138765.73
24 Mg # 1	853.5	853.5	ug/l	0.90	81000.00		2636818.80	2617306.80	2598918.50
27 Al # 1	29490	29490	ug/l	0.74	81000.00		107710400.00	107502280.00	106667970.00
39 K # 2	1255	1255	ug/l	15.60	81000.00		325599.06	319131.25	317026.00
40 Ca # 1	3223	3223	ug/l	1.20	81000.00		27238012.00	27400882.00	26891618.00
47 Ti # 3	137.8	137.8	ug/l	0.50	1620.00		195268.67	195565.86	195101.36
51 V # 2	434.1	434.1	ug/l	14.03	1800.00		841817.38	833388.44	840024.75
52 Cr # 2	350.6	350.6	ug/l	15.48	1800.00		835533.69	808731.56	813661.63
55 Mn # 3	6595	6595	ug/l	0.41	1800.00	Fail	96732344.00	96615448.00	96187544.00
56 Fe # 1	217300	217300	ug/l	1.08	81000.00	Fail	2385367800.00	2410311400.00	2370768100.00
59 Co # 3	83.81	83.81	ug/l	0.21	1800.00		927210.38	934325.69	924912.50
60 Ni # 2	49.59	49.59	ug/l	15.20	1800.00		43689.13	42994.05	42360.38
63 Cu # 2	21.44	21.44	ug/l	15.13	1800.00		52011.66	51217.28	50625.65
66 Zn # 3	135.2	135.2	ug/l	0.49	1800.00		218872.91	218420.78	217232.97
75 As # 2	129.4	129.4	ug/l	14.75	100.00	Fail	33169.25	32588.55	32598.57
78 Se # 1	1.58	1.58	ug/l	1.76	100.00		349.34	339.34	348.34
88 Sr # 3	7.971	7.971	ug/l	0.25	1800.00		317945.00	319913.22	316261.25
95 Mo # 3	9.829	9.829	ug/l	0.96	1800.00		31027.72	31575.13	31117.76
107 Ag # 3	0.1512	0.1512	ug/l	3.80	100.00		1503.44	1413.44	1400.10
111 Cd # 3	0.4266	0.4266	ug/l	1.95	100.00		826.55	843.10	796.53
118 Sn # 3	3.741	3.741	ug/l	2.02	1800.00		23386.25	22708.70	23125.92
121 Sb # 3	2.37	2.37	ug/l	2.44	100.00		16978.75	16985.44	17415.85
137 Ba # 3	400.3	400.3	ug/l	0.87	1800.00		1275012.10	1279868.00	1275435.00
202 Hg # 3	0.1855	0.1855	ug/l	5.88	5.00		581.68	635.03	593.35
205 Tl # 3	0.6469	0.6469	ug/l	1.57	20.00		14730.58	15024.19	14804.04
208 Pb # 3	114.2	114.2	ug/l	1.05	1800.00		3528698.30	3530097.50	3535802.00
232 Th # 3	29.18	29.18	ug/l	0.32	#VALUE!		841808.19	839564.06	844342.56
238 U # 3	9.662	9.662	ug/l	0.65	#VALUE!		290950.47	290089.53	290050.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	319513.09	1.25	442436.88	72.2	60 - 125		316562.53	317901.06	324075.72
45 Sc # 1	568206.19	0.25	456299.72	124.5	60 - 125		567935.31	566956.06	569727.06
45 Sc # 3	962313.19	0.49	765061.25	125.8	60 - 125	IS I	956888.31	964441.25	965610.06
74 Ge # 1	120192.95	1.87	153441.28	78.3	60 - 125		119210.66	118602.15	122766.04
74 Ge # 2	33750.18	12.73	47804.94	70.6	60 - 125		28828.61	35667.06	36754.87
74 Ge # 3	170768.61	0.37	224564.78	76.0	60 - 125		170361.64	171491.52	170452.66
89 Y # 3	2052104.80	0.42	1302847.50	157.5	60 - 125	IS I	2047776.00	2062053.50	2046484.50
115 In # 3	1070249.10	0.97	1366177.60	78.3	60 - 125		1074660.60	1077669.80	1058417.10
159 Tb # 3	1677281.30	1.16	2052817.90	81.7	60 - 125		1661289.40	1671592.80	1698961.50
209 Bi # 3	965231.00	0.60	1405468.50	68.7	60 - 125		964310.63	959943.63	971439.06

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
 2 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\327SMPL.D\327SMPL.D#
 Date Acquired: Aug 26 2014 02:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-13-a
 Misc Info: 3050 1/5
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	5.641	5.641	ug/l	3.57	100.00		7738.36	8075.21	7494.96
11 B #3	2.152	2.152	ug/l	2.06	1800.00		4020.52	4143.88	4077.20
23 Na #1	10.49	10.49	ug/l	28.99	81000.00		153327.69	151378.20	151311.84
24 Mg #1	1017	1017	ug/l	8.13	81000.00		2869074.50	2832207.30	2817320.80
27 Al #1	30770	30770	ug/l	8.25	81000.00		103117040.00	101963040.00	100752930.00
39 K #2	1345	1345	ug/l	0.21	81000.00		369543.25	363296.72	362886.34
40 Ca #1	3939	3939	ug/l	7.93	81000.00		30488332.00	30075352.00	30145670.00
47 Ti #3	135.8	135.8	ug/l	0.54	1620.00		187020.20	185950.33	181984.38
51 V #2	332.3	332.3	ug/l	0.66	1800.00		688257.75	682982.38	677373.00
52 Cr #2	270.7	270.7	ug/l	0.69	1800.00		679369.38	674542.25	668389.38
55 Mn #3	5448	5448	ug/l	0.26	1800.00	Fail	80245640.00	80040056.00	79270472.00
56 Fe #1	198700	198700	ug/l	8.32	81000.00	Fail	2013496300.00	1985045800.00	1967463200.00
59 Co #3	104.5	104.5	ug/l	0.56	1800.00		1174519.60	1153879.00	1152106.00
60 Ni #2	42.56	42.56	ug/l	0.50	1800.00		39997.45	39185.77	38810.54
63 Cu #2	21.35	21.35	ug/l	0.57	1800.00		54858.77	54341.61	53917.07
66 Zn #3	147.6	147.6	ug/l	0.26	1800.00		240594.19	238486.95	236586.72
75 As #2	99.98	99.98	ug/l	0.87	100.00		27183.13	27067.62	26696.41
78 Se #1	1.654	1.654	ug/l	11.30	100.00		332.67	341.00	318.00
88 Sr #3	8.695	8.695	ug/l	0.28	1800.00		323897.41	320858.50	316150.00
95 Mo #3	8.651	8.651	ug/l	1.32	1800.00		27518.63	27812.21	27401.71
107 Ag #3	0.1448	0.1448	ug/l	3.36	100.00		1390.10	1340.09	1426.77
111 Cd #3	0.3103	0.3103	ug/l	7.29	100.00		580.64	647.25	574.00
118 Sn #3	3.877	3.877	ug/l	1.97	1800.00		23660.03	24144.12	24063.83
121 Sb #3	1.938	1.938	ug/l	1.85	100.00		14463.06	13732.52	13949.31
137 Ba #3	193.4	193.4	ug/l	0.33	1800.00		622437.69	616957.63	616246.69
202 Hg #3	0.1527	0.1527	ug/l	0.10	5.00		504.68	509.34	509.68
205 Tl #3	0.4087	0.4087	ug/l	4.01	20.00		9506.46	9503.13	8912.77
208 Pb #3	163	163	ug/l	1.03	1800.00		4994311.00	4969433.50	4941929.50
232 Th #3	27.94	27.94	ug/l	1.28	#VALUE!		815309.88	804999.44	797939.06
238 U #3	7.33	7.33	ug/l	0.92	#VALUE!		221954.19	219966.73	218896.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	318365.91	0.34	442436.88	72.0	60 - 125		317274.59	319433.22	318389.94
45 Sc #1	519312.09	6.90	456299.72	113.8	60 - 125		478001.03	538354.25	541581.06
45 Sc #3	925250.00	0.95	765061.25	120.9	60 - 125		933321.00	926503.31	915925.50
74 Ge #1	110724.26	9.12	153441.28	72.2	60 - 125		99067.70	116257.23	116847.86
74 Ge #2	35488.91	1.23	47804.94	74.2	60 - 125		35990.98	35251.79	35223.95
74 Ge #3	171018.47	0.59	224564.78	76.2	60 - 125		172070.67	170912.31	170072.39
89 Y #3	1894688.80	1.36	1302847.50	145.4	60 - 125	IS I	1921426.30	1892699.40	1869940.10
115 In #3	1072984.10	0.85	1366177.60	78.5	60 - 125		1083440.90	1066949.00	1068562.80
159 Tb #3	1652871.40	0.56	2052817.90	80.5	60 - 125		1642320.80	1658967.60	1657325.80
209 Bi #3	965134.88	0.31	1405468.50	68.7	60 - 125		962290.19	968264.38	964850.19

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\328SMPL.D\328SMPL.D#
 Date Acquired: Aug 26 2014 02:22 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-14-a
 Misc Info: 3050 1/5
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.506	1.506	ug/l	1.14	100.00		2156.84	2113.50	2120.17
11 B # 3	6.281	6.281	ug/l	1.74	1800.00		8705.48	8888.91	8735.45
23 Na # 1	111.7	111.7	ug/l	1.34	81000.00		399570.41	396511.13	395893.00
24 Mg # 1	1640	1640	ug/l	0.50	81000.00		3272324.30	3273261.50	3286177.80
27 Al # 1	16040	16040	ug/l	0.65	81000.00		38069956.00	38070216.00	37983548.00
39 K # 2	1242	1242	ug/l	1.19	81000.00		347157.41	349272.72	344735.00
40 Ca # 1	9880	9880	ug/l	0.69	81000.00		54329940.00	54270604.00	54188224.00
47 Ti # 3	223.7	223.7	ug/l	0.73	1620.00		211004.14	210784.91	208793.22
51 V # 2	47.02	47.02	ug/l	1.10	1800.00		99436.88	100399.68	98407.20
52 Cr # 2	43.96	43.96	ug/l	1.75	1800.00		113519.58	113176.30	111287.30
55 Mn # 3	1042	1042	ug/l	0.65	1800.00		16227360.00	16143630.00	16072513.00
56 Fe # 1	46450	46450	ug/l	0.70	81000.00		333259170.00	332323740.00	332890270.00
59 Co # 3	13.56	13.56	ug/l	0.90	1800.00		160386.72	157856.69	159277.89
60 Ni # 2	22.18	22.18	ug/l	1.91	1800.00		21124.32	20955.28	21116.50
63 Cu # 2	78.49	78.49	ug/l	1.24	1800.00		204786.86	205997.22	202482.59
66 Zn # 3	817.2	817.2	ug/l	0.84	1800.00		1399418.40	1400237.30	1382902.10
75 As # 2	32.82	32.82	ug/l	1.66	100.00		9068.93	9078.93	9166.64
78 Se # 1	1.871	1.871	ug/l	3.43	100.00		417.01	396.34	394.67
88 Sr # 3	55.4	55.4	ug/l	0.96	1800.00		1639523.90	1633243.60	1611130.50
95 Mo # 3	2.374	2.374	ug/l	1.65	1800.00		8072.05	7888.62	8212.13
107 Ag # 3	0.6204	0.6204	ug/l	2.04	100.00		5967.85	5964.51	5827.82
111 Cd # 3	2.455	2.455	ug/l	1.40	100.00		4922.40	5045.80	4965.70
118 Sn # 3	21.01	21.01	ug/l	1.86	1800.00		136176.53	133889.63	132908.09
121 Sb # 3	2.061	2.061	ug/l	2.14	100.00		15887.77	15914.37	15493.99
137 Ba # 3	388.7	388.7	ug/l	1.70	1800.00		1320739.40	1318315.40	1296043.40
202 Hg # 3	0.3868	0.3868	ug/l	3.50	5.00		1190.16	1127.38	1143.38
205 Tl # 3	0.4229	0.4229	ug/l	3.52	20.00		10236.93	9719.93	9619.85
208 Pb # 3	374.1	374.1	ug/l	1.08	1800.00		11789311.00	11644928.00	11592515.00
232 Th # 3	2.384	2.384	ug/l	1.04	#VALUE!		74123.62	76104.67	75354.62
238 U # 3	1.626	1.626	ug/l	0.95	#VALUE!		53594.47	53430.15	52844.79

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	326847.94	0.34	442436.88	73.9	60 - 125		326703.53	325824.94	328015.38
45 Sc # 1	370438.44	0.58	456299.72	81.2	60 - 125		367968.59	371723.59	371623.13
45 Sc # 3	638263.75	0.16	765061.25	83.4	60 - 125		637191.50	638312.75	639287.00
74 Ge # 1	119102.35	0.47	153441.28	77.6	60 - 125		118905.20	118668.02	119733.81
74 Ge # 2	36451.17	1.48	47804.94	76.2	60 - 125		35999.88	37048.70	36304.93
74 Ge # 3	180844.95	0.17	224564.78	80.5	60 - 125		180514.69	180880.08	181140.13
89 Y # 3	1512400.40	0.32	1302847.50	116.1	60 - 125		1508367.60	1517738.80	1511094.80
115 In # 3	1132299.10	0.67	1366177.60	82.9	60 - 125		1126410.90	1129629.80	1140856.60
159 Tb # 3	1692546.40	0.70	2052817.90	82.4	60 - 125		1689971.00	1705456.00	1682211.90
209 Bi # 3	1052094.80	0.31	1405468.50	74.9	60 - 125		1048386.90	1054295.80	1053601.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\329_CCV.D\329_CCV.D#
 Date Acquired: Aug 26 2014 02:29 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	47.54 ug/l	0.63	50.00	89.5 - 110		67365.46	66542.47	67693.20
11 B	93.92 ug/l	0.41	100.00	89.5 - 110		105832.17	106086.63	106455.05
23 Na	4776 ug/l	12.83	5000.00	89.5 - 110		13471901.00	13380267.00	13022349.00
24 Mg	4716 ug/l	12.92	5000.00	89.5 - 110		9254674.00	9258216.00	8947442.00
27 Al	488.8 ug/l	13.50	500.00	89.5 - 110		1150104.60	1136074.00	1093849.00
39 K	4874 ug/l	0.94	5000.00	89.5 - 110		1349091.60	1367434.00	1366442.10
40 Ca	4861 ug/l	13.08	5000.00	89.5 - 110		26367022.00	26124592.00	25308626.00
47 Ti	50.56 ug/l	1.41	50.00	89.5 - 110		44383.08	44490.04	45071.41
51 V	47.65 ug/l	0.74	50.00	89.5 - 110		102524.15	103055.01	103211.47
52 Cr	47.81 ug/l	0.51	50.00	89.5 - 110		124568.79	125814.88	125103.48
55 Mn	504.6 ug/l	0.94	500.00	89.5 - 110		7896505.50	7791788.00	7961409.00
56 Fe	5053 ug/l	12.93	5000.00	89.5 - 110		35712424.00	35410176.00	34385228.00
59 Co	48.51 ug/l	0.40	50.00	89.5 - 110		572788.13	571667.38	577210.75
60 Ni	48.56 ug/l	0.79	50.00	89.5 - 110		46934.62	47075.09	47232.16
63 Cu	47.45 ug/l	0.75	50.00	89.5 - 110		125985.84	126476.54	126770.86
66 Zn	48.91 ug/l	0.87	50.00	89.5 - 110		83814.21	85039.48	84966.06
75 As	49.44 ug/l	1.17	50.00	89.5 - 110		14169.16	13920.30	13933.97
78 Se	47.55 ug/l	9.91	50.00	89.5 - 110		10457.68	10523.05	10096.15
88 Sr	48.74 ug/l	0.59	50.00	89.5 - 110		1040494.60	1039710.10	1038825.20
95 Mo	48.62 ug/l	0.52	50.00	89.5 - 110		164374.33	164018.36	162958.61
107 Ag	47.61 ug/l	0.72	50.00	89.5 - 110		447027.91	446325.81	451488.69
111 Cd	48.19 ug/l	1.61	50.00	89.5 - 110		96653.98	98839.61	98571.30
118 Sn	48.59 ug/l	0.49	50.00	89.5 - 110		310948.66	309790.38	312590.56
121 Sb	47.84 ug/l	0.49	50.00	89.5 - 110		366123.22	366365.69	367350.13
137 Ba	48.61 ug/l	0.36	50.00	89.5 - 110		164779.92	164311.77	165167.00
202 Hg	2.553 ug/l	1.16	2.50	89.5 - 110		6857.82	6902.84	6852.82
205 Tl	9.344 ug/l	0.74	10.00	89.5 - 110		210801.69	208043.06	210522.98
208 Pb	46.99 ug/l	0.77	50.00	89.5 - 110		1434627.30	1437792.50	1438351.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	326777.03	0.28	442436.88	73.9	60 - 125		327381.31	325714.91	327234.84
45 Sc	363432.66	11.87	456299.72	79.6	60 - 125		337222.19	339848.66	413227.22
45 Sc	598990.38	0.58	765061.25	78.3	60 - 125		601005.56	600966.81	594998.63
74 Ge	126083.49	8.17	153441.28	82.2	60 - 125		120023.30	120248.34	137978.84
74 Ge	37241.64	0.57	47804.94	77.9	60 - 125		37242.40	37455.01	37027.50
74 Ge	182282.44	0.15	224564.78	81.2	60 - 125		182358.75	181988.30	182500.31
89 Y	1097816.40	0.65	1302847.50	84.3	60 - 125		1101972.90	1101939.10	1089537.00
115 In	1136903.50	0.42	1366177.60	83.2	60 - 125		1141752.50	1132280.80	1136677.30
159 Tb	1657315.90	0.83	2052817.90	80.7	60 - 125		1651692.30	1647257.50	1672998.10
209 Bi	1023996.60	0.45	1405468.50	72.9	60 - 125		1019173.60	1024435.00	1028381.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\330_CCB.D\330_CCB.D#
 Date Acquired: Aug 26 2014 02:37 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001802	0.001802	ug/l	131.58	#VALUE!		3.33	0.00	6.67
11 B #3	1.076	1.076	ug/l	6.71	#VALUE!		3033.66	2933.63	2920.29
23 Na #1	-13.91	-13.91	ug/l	0.64	#VALUE!		35289.54	35546.55	35309.44
24 Mg #1	0.3162	0.3162	ug/l	4.46	#VALUE!		1363.42	1403.42	1363.41
27 Al #1	1.025	1.025	ug/l	11.71	#VALUE!		3183.67	3347.05	3713.97
39 K #2	-10.32	-10.32	ug/l	10.36	#VALUE!		7678.40	7368.31	7948.56
40 Ca #1	0.9529	0.9529	ug/l	1.01	#VALUE!		23832.08	23969.03	24045.75
47 Ti #3	-0.03366	-0.03366	ug/l	59.77	#VALUE!		46.67	76.67	46.67
51 V #2	-0.02088	-0.02088	ug/l	39.65	#VALUE!		156.67	148.89	124.45
52 Cr #2	-0.01232	-0.01232	ug/l	67.42	#VALUE!		252.23	240.00	213.34
55 Mn #3	0.3709	0.3709	ug/l	2.02	#VALUE!		6818.10	6961.48	6904.82
56 Fe #1	6.37	6.37	ug/l	3.28	#VALUE!		42790.03	45493.40	45008.76
59 Co #3	0.003868	0.003868	ug/l	36.56	#VALUE!		96.67	86.67	120.00
60 Ni #2	0.01329	0.01329	ug/l	94.66	#VALUE!		48.89	44.44	67.78
63 Cu #2	-0.02631	-0.02631	ug/l	12.70	#VALUE!		276.67	278.89	295.56
66 Zn #3	-0.03255	-0.03255	ug/l	41.05	#VALUE!		433.35	463.35	476.69
75 As #2	0.02144	0.02144	ug/l	31.82	#VALUE!		19.33	16.00	19.00
78 Se #1	-0.02752	-0.02752	ug/l	33.50	#VALUE!		11.00	8.33	12.00
88 Sr #3	0.005359	0.005359	ug/l	30.58	#VALUE!		210.01	253.34	276.68
95 Mo #3	0.01865	0.01865	ug/l	22.74	#VALUE!		153.34	176.67	153.34
107 Ag #3	0.001639	0.001639	ug/l	78.77	#VALUE!		126.67	126.67	106.67
111 Cd #3	0.004389	0.004389	ug/l	43.18	#VALUE!		9.97	16.63	16.63
118 Sn #3	0.1136	0.1136	ug/l	12.08	#VALUE!		1306.76	1416.76	1260.08
121 Sb #3	0.02682	0.02682	ug/l	18.36	#VALUE!		273.34	243.34	200.01
137 Ba #3	0.01922	0.01922	ug/l	7.02	#VALUE!		96.67	93.34	103.34
202 Hg #3	0.003461	0.003461	ug/l	39.58	#VALUE!		109.67	115.33	115.33
205 Tl #3	-0.002139	-0.002139	ug/l	36.15	#VALUE!		103.34	110.00	136.67
208 Pb #3	-0.008041	-0.008041	ug/l	11.34	#VALUE!		920.04	936.71	976.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	323479.22	0.58	442436.88	73.1	60 - 125		321365.63	324069.09	325003.00
45 Sc #1	333755.56	0.43	456299.72	73.1	60 - 125		332614.38	333285.19	335367.19
45 Sc #3	583047.00	0.16	765061.25	76.2	60 - 125		583494.25	583653.94	581992.75
74 Ge #1	119006.34	0.38	153441.28	77.6	60 - 125		118478.01	119276.77	119264.23
74 Ge #2	37126.57	0.91	47804.94	77.7	60 - 125		36736.90	37298.02	37344.79
74 Ge #3	179552.34	0.75	224564.78	80.0	60 - 125		180120.44	178009.16	180527.42
89 Y #3	1087591.90	0.42	1302847.50	83.5	60 - 125		1089991.00	1090508.60	1082276.10
115 In #3	1133325.50	0.54	1366177.60	83.0	60 - 125		1132689.60	1127503.90	1139783.30
159 Tb #3	1653920.90	0.61	2052817.90	80.6	60 - 125		1658975.10	1642277.00	1660510.60
209 Bi #3	1038527.60	0.22	1405468.50	73.9	60 - 125		1040267.10	1039409.90	1035905.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\331SMPL.D\331SMPL.D#
 Date Acquired: Aug 26 2014 02:44 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-15-a
 Misc Info: 3050 1/5
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	2.769	2.769	ug/l	1.52	100.00		4280.58	4307.27	4447.29
11 B # 3	10.04	10.04	ug/l	2.38	1800.00		14038.70	14585.74	14472.39
23 Na # 1	150.9	150.9	ug/l	0.59	81000.00		576263.88	580590.31	582474.19
24 Mg # 1	4988	4988	ug/l	0.47	81000.00		11277660.00	11343970.00	11457877.00
27 Al # 1	20050	20050	ug/l	0.43	81000.00		53845484.00	53983264.00	54724504.00
39 K # 2	1590	1590	ug/l	0.38	81000.00		473725.81	479656.13	480736.56
40 Ca # 1	20310	20310	ug/l	0.40	81000.00		126511770.00	126295500.00	128405170.00
47 Ti # 3	236.4	236.4	ug/l	0.74	1620.00		274704.06	275417.81	275783.34
51 V # 2	91.77	91.77	ug/l	0.50	1800.00		209237.05	208889.78	211377.25
52 Cr # 2	79.45	79.45	ug/l	0.24	1800.00		218806.17	220098.36	221596.47
55 Mn # 3	4332	4332	ug/l	1.18	1800.00	Fail	72633000.00	73304024.00	73114664.00
56 Fe # 1	72370	72370	ug/l	0.73	81000.00		591207870.00	591971070.00	589523260.00
59 Co # 3	24.35	24.35	ug/l	1.07	1800.00		307465.38	313282.88	311721.44
60 Ni # 2	26.45	26.45	ug/l	0.85	1800.00		27023.02	27372.47	27183.29
63 Cu # 2	81.62	81.62	ug/l	0.63	1800.00		229800.92	229066.45	231408.84
66 Zn # 3	692.1	692.1	ug/l	1.23	1800.00		1279213.30	1287779.80	1285404.00
75 As # 2	43.15	43.15	ug/l	0.23	100.00		12853.52	12912.56	13093.35
78 Se # 1	1.974	1.974	ug/l	1.41	100.00		452.34	445.34	446.34
88 Sr # 3	44.81	44.81	ug/l	1.09	1800.00		1589783.40	1595693.40	1626002.60
95 Mo # 3	3.463	3.463	ug/l	2.19	1800.00		12251.16	12798.30	12548.01
107 Ag # 3	0.4973	0.4973	ug/l	1.61	100.00		5180.91	5020.87	5100.88
111 Cd # 3	1.831	1.831	ug/l	3.84	100.00		3821.15	3981.09	4127.84
118 Sn # 3	36.5	36.5	ug/l	0.58	1800.00		247750.98	249237.20	250774.50
121 Sb # 3	2.129	2.129	ug/l	3.15	100.00		16895.29	17385.81	17999.84
137 Ba # 3	439.9	439.9	ug/l	0.23	1800.00		1584448.30	1591656.00	1590856.30
202 Hg # 3	0.3583	0.3583	ug/l	5.50	5.00		1166.15	1076.04	1199.80
205 Tl # 3	0.69	0.69	ug/l	17.20	20.00		15731.59	20209.16	15084.27
208 Pb # 3	274.7	274.7	ug/l	1.16	1800.00		9069002.00	9195466.00	9127598.00
232 Th # 3	6.472	6.472	ug/l	3.06	#VALUE!		214848.86	214330.84	215417.86
238 U # 3	2.634	2.634	ug/l	2.49	#VALUE!		90227.77	91407.98	91401.22

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	362589.09	0.60	442436.88	82.0	60 - 125		361872.06	360867.03	365028.13
45 Sc # 1	422106.00	0.52	456299.72	92.5	60 - 125		421350.53	420382.06	424585.34
45 Sc # 3	791333.88	0.58	765061.25	103.4	60 - 125		796239.06	787221.44	790541.13
74 Ge # 1	125871.12	0.73	153441.28	82.0	60 - 125		125251.73	125435.19	126926.44
74 Ge # 2	39454.77	0.88	47804.94	82.5	60 - 125		39121.80	39431.35	39811.15
74 Ge # 3	196676.34	1.43	224564.78	87.6	60 - 125		193973.14	196456.31	199599.56
89 Y # 3	1842189.40	0.66	1302847.50	141.4	60 - 125	IS I	1828553.10	1851541.60	1846472.90
115 In # 3	1211842.40	0.03	1366177.60	88.7	60 - 125		1211532.50	1211766.60	1212227.90
159 Tb # 3	1802968.50	0.72	2052817.90	87.8	60 - 125		1799873.90	1791851.00	1817180.80
209 Bi # 3	1110149.40	2.90	1405468.50	79.0	60 - 125		1088189.10	1147121.50	1095137.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\332SMPL.D\332SMPL.D#
 Date Acquired: Aug 26 2014 02:51 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-16-a
 Misc Info: 3050 1/5
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.381	1.381	ug/l	3.35	100.00		2253.54	2160.17	2113.51
11 B # 3	5.26	5.26	ug/l	4.14	1800.00		8698.82	8618.74	8221.94
23 Na # 1	509.4	509.4	ug/l	0.74	81000.00		1657239.80	1671035.40	1669147.00
24 Mg # 1	1182	1182	ug/l	0.56	81000.00		2595085.00	2554074.80	2567234.80
27 Al # 1	12970	12970	ug/l	0.77	81000.00		33835192.00	33137400.00	33465172.00
39 K # 2	727.1	727.1	ug/l	5.14	81000.00		238540.95	238706.81	235573.92
40 Ca # 1	7579	7579	ug/l	0.13	81000.00		45390496.00	45141852.00	45411444.00
47 Ti # 3	188.4	188.4	ug/l	0.49	1620.00		194794.31	193294.34	192700.80
51 V # 2	32.76	32.76	ug/l	4.86	1800.00		79437.00	79950.16	78742.12
52 Cr # 2	32.29	32.29	ug/l	5.69	1800.00		95578.34	95752.58	93112.13
55 Mn # 3	998.5	998.5	ug/l	0.47	1800.00		17095910.00	17161578.00	17067134.00
56 Fe # 1	33360	33360	ug/l	0.58	81000.00		259338580.00	260875250.00	260412930.00
59 Co # 3	12.36	12.36	ug/l	1.48	1800.00		158491.05	160760.03	162021.41
60 Ni # 2	17.28	17.28	ug/l	5.69	1800.00		19127.72	18801.83	18480.39
63 Cu # 2	58.12	58.12	ug/l	5.35	1800.00		174642.23	174637.36	171013.06
66 Zn # 3	1114	1114	ug/l	0.30	1800.00		2102720.00	2103730.50	2096224.80
75 As # 2	19.41	19.41	ug/l	5.87	100.00		6224.73	6239.08	6045.68
78 Se # 1	1.615	1.615	ug/l	3.16	100.00		376.00	402.34	390.01
88 Sr # 3	33.2	33.2	ug/l	0.95	1800.00		1037989.10	1037574.70	1037644.10
95 Mo # 3	1.957	1.957	ug/l	3.51	1800.00		7104.97	7141.64	7498.43
107 Ag # 3	0.6097	0.6097	ug/l	1.98	100.00		6478.06	6327.97	6201.25
111 Cd # 3	3.071	3.071	ug/l	1.15	100.00		6860.00	6729.90	6739.87
118 Sn # 3	16.45	16.45	ug/l	0.95	1800.00		113827.55	114820.86	115209.84
121 Sb # 3	1.302	1.302	ug/l	1.10	100.00		10930.37	10970.37	10656.89
137 Ba # 3	450.2	450.2	ug/l	0.39	1800.00		1647932.40	1665333.50	1648830.80
202 Hg # 3	0.3986	0.3986	ug/l	2.77	5.00		1227.38	1243.38	1269.05
205 Tl # 3	0.3406	0.3406	ug/l	2.39	20.00		8629.26	8419.14	8102.29
208 Pb # 3	533.4	533.4	ug/l	0.77	1800.00		17520122.00	17493790.00	17496670.00
232 Th # 3	1.528	1.528	ug/l	0.61	#VALUE!		53561.33	53866.26	54447.01
238 U # 3	1.217	1.217	ug/l	0.32	#VALUE!		44525.22	44672.25	44521.64

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	364089.34	0.22	442436.88	82.3	60 - 125		364114.38	363272.03	364881.63
45 Sc # 1	403231.19	0.29	456299.72	88.4	60 - 125		404239.63	401963.97	403490.03
45 Sc # 3	698007.50	0.52	765061.25	91.2	60 - 125		699416.81	700701.81	693903.88
74 Ge # 1	132644.28	0.37	153441.28	86.4	60 - 125		132180.92	133155.70	132596.19
74 Ge # 2	41796.03	4.26	47804.94	87.4	60 - 125		40767.69	40767.64	43852.75
74 Ge # 3	199910.52	0.37	224564.78	89.0	60 - 125		200745.92	199657.94	199327.70
89 Y # 3	1608713.30	0.93	1302847.50	123.5	60 - 125		1591508.80	1616162.50	1618468.80
115 In # 3	1232521.90	0.50	1366177.60	90.2	60 - 125		1233488.30	1238168.00	1225909.40
159 Tb # 3	1779793.80	0.83	2052817.90	86.7	60 - 125		1794137.90	1780716.30	1764527.30
209 Bi # 3	1175916.60	0.37	1405468.50	83.7	60 - 125		1170931.30	1178493.00	1178325.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\333SMPL.D\333SMPL.D#
 Date Acquired: Aug 26 2014 02:59 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-17-a
 Misc Info: 3050 1/5
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.604	1.604	ug/l	4.33	100.00		2683.59	2493.56	2510.23
11 B # 3	10.47	10.47	ug/l	1.30	1800.00		14936.06	15289.65	15289.65
23 Na # 1	483.8	483.8	ug/l	0.67	81000.00		1620732.00	1611444.50	1628805.60
24 Mg # 1	1802	1802	ug/l	0.54	81000.00		3988816.50	4026561.30	3998629.00
27 Al # 1	13510	13510	ug/l	1.18	81000.00		35248024.00	36032104.00	35657280.00
39 K # 2	1268	1268	ug/l	10.19	81000.00		397782.06	403550.88	409801.19
40 Ca # 1	18090	18090	ug/l	0.58	81000.00		109905860.00	111021390.00	110422000.00
47 Ti # 3	164.5	164.5	ug/l	2.49	1620.00		178653.22	178761.13	180238.44
51 V # 2	32.65	32.65	ug/l	10.44	1800.00		77173.61	78607.05	80329.57
52 Cr # 2	36.47	36.47	ug/l	9.67	1800.00		105844.90	105814.58	108039.58
55 Mn # 3	693.5	693.5	ug/l	0.39	1800.00		11990783.00	12025980.00	12171327.00
56 Fe # 1	26620	26620	ug/l	0.66	81000.00		210815410.00	213086780.00	212445360.00
59 Co # 3	11.59	11.59	ug/l	0.22	1800.00		151937.09	152874.91	153170.91
60 Ni # 2	25.05	25.05	ug/l	10.11	1800.00		26648.12	27084.25	27568.31
63 Cu # 2	56.36	56.36	ug/l	9.70	1800.00		164850.20	167853.33	169416.33
66 Zn # 3	593.2	593.2	ug/l	1.10	1800.00		1146243.30	1129450.90	1131800.90
75 As # 2	16.94	16.94	ug/l	9.23	100.00		5285.44	5411.81	5396.14
78 Se # 1	1.333	1.333	ug/l	1.18	100.00		322.67	325.34	328.34
88 Sr # 3	80.34	80.34	ug/l	0.53	1800.00		2540664.80	2555325.80	2585303.50
95 Mo # 3	1.989	1.989	ug/l	1.74	1800.00		7401.76	7551.83	7398.43
107 Ag # 3	0.4813	0.4813	ug/l	1.62	100.00		5017.53	5137.58	5090.89
111 Cd # 3	1.851	1.851	ug/l	4.94	100.00		4008.95	4342.34	4048.95
118 Sn # 3	16.34	16.34	ug/l	0.31	1800.00		114982.46	114823.91	115679.73
121 Sb # 3	0.9218	0.9218	ug/l	1.15	100.00		7798.63	7821.98	7728.62
137 Ba # 3	365.3	365.3	ug/l	1.73	1800.00		1346846.60	1376035.30	1349162.80
202 Hg # 3	0.2689	0.2689	ug/l	8.78	5.00		851.69	986.46	853.69
205 Tl # 3	0.2608	0.2608	ug/l	1.59	20.00		6484.83	6624.91	6698.28
208 Pb # 3	319.2	319.2	ug/l	1.38	1800.00		10725357.00	10645728.00	10740213.00
232 Th # 3	3.446	3.446	ug/l	1.82	#VALUE!		121705.83	121545.39	121014.87
238 U # 3	1.59	1.59	ug/l	2.13	#VALUE!		57548.40	58465.02	58796.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	369275.06	0.22	442436.88	83.5	60 - 125		368334.56	369603.06	369887.53
45 Sc # 1	411885.59	0.16	456299.72	90.3	60 - 125		412492.75	411953.34	411210.75
45 Sc # 3	740428.19	1.97	765061.25	96.8	60 - 125		750408.81	747204.25	723671.31
74 Ge # 1	132974.69	1.10	153441.28	86.7	60 - 125		131613.44	134517.64	132793.00
74 Ge # 2	41754.46	8.10	47804.94	87.3	60 - 125		44422.92	42891.90	37948.56
74 Ge # 3	202936.27	0.40	224564.78	90.4	60 - 125		202251.50	202714.14	203843.14
89 Y # 3	1640372.60	1.06	1302847.50	125.9	60 - 125	IS I	1620707.80	1646879.80	1653530.40
115 In # 3	1246612.30	0.55	1366177.60	91.2	60 - 125		1248302.30	1239015.10	1252519.40
159 Tb # 3	1818624.80	0.93	2052817.90	88.6	60 - 125		1805386.00	1837723.80	1812764.40
209 Bi # 3	1176558.60	1.66	1405468.50	83.7	60 - 125		1185261.30	1154226.00	1190188.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 1 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\334SMPL.D\334SMPL.D#
 Date Acquired: Aug 26 2014 03:06 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-18-a
 Misc Info: 3050 1/5
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.201	1.201	ug/l	1.37	100.00		1933.48	1970.16	1920.15
11 B # 3	5.918	5.918	ug/l	2.07	1800.00		9445.83	9739.32	9529.20
23 Na # 1	115.2	115.2	ug/l	0.56	81000.00		459887.69	464242.66	465398.94
24 Mg # 1	1204	1204	ug/l	0.93	81000.00		2736822.00	2728492.50	2751682.80
27 Al # 1	11730	11730	ug/l	0.64	81000.00		31518536.00	31663946.00	31838120.00
39 K # 2	931.3	931.3	ug/l	0.56	81000.00		303271.19	305186.59	306832.97
40 Ca # 1	7702	7702	ug/l	0.36	81000.00		47943196.00	48284632.00	48187620.00
47 Ti # 3	182.1	182.1	ug/l	2.27	1620.00		197354.53	197648.92	198519.13
51 V # 2	35	35	ug/l	0.16	1800.00		85719.84	86201.17	85933.13
52 Cr # 2	33.97	33.97	ug/l	0.34	1800.00		101093.59	100852.61	101369.63
55 Mn # 3	854	854	ug/l	0.55	1800.00		15003763.00	15108876.00	15024611.00
56 Fe # 1	33320	33320	ug/l	0.48	81000.00		268320930.00	274090300.00	272795100.00
59 Co # 3	11.4	11.4	ug/l	0.18	1800.00		152404.77	151588.16	152236.33
60 Ni # 2	18.86	18.86	ug/l	1.39	1800.00		20574.84	21159.87	20677.14
63 Cu # 2	69.61	69.61	ug/l	0.28	1800.00		209849.13	211398.73	210148.05
66 Zn # 3	797.6	797.6	ug/l	0.08	1800.00		1546670.40	1544763.90	1548752.60
75 As # 2	23.55	23.55	ug/l	0.59	100.00		7574.58	7552.57	7632.60
78 Se # 1	1.542	1.542	ug/l	1.37	100.00		385.67	383.34	388.67
88 Sr # 3	54	54	ug/l	0.50	1800.00		1656116.90	1681314.80	1672479.40
95 Mo # 3	2.2	2.2	ug/l	2.77	1800.00		8672.38	8325.48	8122.09
107 Ag # 3	0.5792	0.5792	ug/l	1.30	100.00		6257.97	6091.24	6244.62
111 Cd # 3	2.37	2.37	ug/l	5.89	100.00		5202.36	5725.93	5215.81
118 Sn # 3	17.41	17.41	ug/l	1.40	1800.00		123710.90	125705.55	124933.23
121 Sb # 3	1.506	1.506	ug/l	0.83	100.00		12878.46	12938.52	12908.55
137 Ba # 3	344.9	344.9	ug/l	1.91	1800.00		1286226.50	1321911.80	1301920.60
202 Hg # 3	0.3003	0.3003	ug/l	6.16	5.00		968.36	976.37	1072.86
205 Tl # 3	0.3397	0.3397	ug/l	0.56	20.00		8622.61	8712.64	8745.99
208 Pb # 3	340.2	340.2	ug/l	0.72	1800.00		11492308.00	11627039.00	11712543.00
232 Th # 3	1.555	1.555	ug/l	2.56	#VALUE!		54545.27	56968.31	57351.73
238 U # 3	1.227	1.227	ug/l	1.08	#VALUE!		45461.59	46230.55	46611.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	373605.09	0.04	442436.88	84.4	60 - 125		373767.59	373437.22	373610.47
45 Sc # 1	421525.19	0.70	456299.72	92.4	60 - 125		418502.28	424436.72	421636.63
45 Sc # 3	738017.56	1.94	765061.25	96.5	60 - 125		746949.63	745608.81	721494.13
74 Ge # 1	137335.39	0.61	153441.28	89.5	60 - 125		137447.27	138109.38	136449.52
74 Ge # 2	42304.83	0.12	47804.94	88.5	60 - 125		42254.35	42357.93	42302.20
74 Ge # 3	205552.61	0.21	224564.78	91.5	60 - 125		205565.59	205109.69	205982.56
89 Y # 3	1591576.60	0.32	1302847.50	122.2	60 - 125		1585662.00	1594012.50	1595055.50
115 In # 3	1268031.50	0.63	1366177.60	92.8	60 - 125		1277207.50	1263647.50	1263239.30
159 Tb # 3	1850661.60	0.32	2052817.90	90.2	60 - 125		1847091.90	1847293.10	1857599.80
209 Bi # 3	1205965.50	0.29	1405468.50	85.8	60 - 125		1204068.40	1203794.40	1210033.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\335SMPL.D\335SMPL.D#
 Date Acquired: Aug 26 2014 03:13 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-103678-a-4-a
 Misc Info: 3050 1/5
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002192	0.002192	ug/l	109.49	100.00		6.67	0.00	6.67
11 B #3	0.2961	0.2961	ug/l	15.75	1800.00		2330.20	2476.89	2453.55
23 Na #1	-8.614	-8.614	ug/l	1.77	81000.00		56860.86	57576.63	57282.21
24 Mg #1	21.4	21.4	ug/l	1.53	81000.00		46055.47	46620.51	45176.84
27 Al #1	16.63	16.63	ug/l	0.47	81000.00		42915.00	43159.19	42794.75
39 K #2	-9.141	-9.141	ug/l	8.39	81000.00		8955.67	8802.29	9142.44
40 Ca #1	41.56	41.56	ug/l	0.55	81000.00		263398.78	261139.78	263396.19
47 Ti #3	1.451	1.451	ug/l	3.88	1620.00		1546.77	1456.76	1566.78
51 V #2	0.229	0.229	ug/l	3.71	1800.00		778.91	772.24	740.02
52 Cr #2	0.8991	0.8991	ug/l	1.45	1800.00		2940.26	2915.81	2926.92
55 Mn #3	1.671	1.671	ug/l	0.99	1800.00		30128.29	30806.12	30582.29
56 Fe #1	80.26	80.26	ug/l	0.41	81000.00		612240.44	610161.63	605175.44
59 Co #3	0.02337	0.02337	ug/l	9.05	1800.00		400.02	346.68	370.01
60 Ni #2	0.1375	0.1375	ug/l	2.53	1800.00		197.78	195.56	191.11
63 Cu #2	1.353	1.353	ug/l	1.32	1800.00		4449.47	4423.90	4380.55
66 Zn #3	1.679	1.679	ug/l	4.34	1800.00		3940.54	3687.14	3790.49
75 As #2	0.1151	0.1151	ug/l	8.91	100.00		49.00	47.67	53.33
78 Se #1	-0.02873	-0.02873	ug/l	44.00	100.00		9.33	15.00	10.67
88 Sr #3	0.2495	0.2495	ug/l	0.86	1800.00		6071.19	5991.16	6161.23
95 Mo #3	1.146	1.146	ug/l	3.21	1800.00		4310.65	4597.40	4400.67
107 Ag #3	-0.002413	-0.002413	ug/l	49.03	100.00		83.34	106.67	86.67
111 Cd #3	0.001246	0.001246	ug/l	235.96	100.00		15.72	8.99	2.37
118 Sn #3	2.003	2.003	ug/l	2.84	1800.00		15036.94	15420.60	14613.27
121 Sb #3	0.0306	0.0306	ug/l	5.98	100.00		316.68	286.68	300.01
137 Ba #3	0.6709	0.6709	ug/l	3.01	1800.00		2533.60	2676.97	2543.60
202 Hg #3	-0.01766	-0.01766	ug/l	18.62	5.00		61.33	73.00	55.00
205 Tl #3	-0.003457	-0.003457	ug/l	26.52	20.00		70.00	106.67	110.01
208 Pb #3	0.553	0.553	ug/l	2.88	1800.00		19665.45	20255.65	19491.84
232 Th #3	0.02714	0.02714	ug/l	17.07	#VALUE!		1376.77	1260.09	1053.41
238 U #3	0.003426	0.003426	ug/l	37.60	#VALUE!		143.34	210.01	113.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	371811.28	0.84	442436.88	84.0	60 - 125		368211.97	373751.94	373469.94
45 Sc #1	389903.78	0.22	456299.72	85.4	60 - 125		390823.38	389719.28	389168.66
45 Sc #3	667766.13	0.82	765061.25	87.3	60 - 125		663061.56	666493.88	673743.00
74 Ge #1	136218.67	0.49	153441.28	88.8	60 - 125		136955.58	136033.02	135667.41
74 Ge #2	41665.59	0.92	47804.94	87.2	60 - 125		41395.70	42104.07	41497.00
74 Ge #3	203634.80	0.50	224564.78	90.7	60 - 125		203326.59	204769.97	202807.86
89 Y #3	1222095.60	1.29	1302847.50	93.8	60 - 125		1232317.80	1203985.10	1229984.00
115 In #3	1274166.10	0.25	1366177.60	93.3	60 - 125		1270455.30	1275911.60	1276131.50
159 Tb #3	1814657.60	0.69	2052817.90	88.4	60 - 125		1823946.30	1800328.30	1819698.30
209 Bi #3	1205439.80	0.78	1405468.50	85.8	60 - 125		1196763.00	1215468.50	1204087.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\336_QCS.D\336_QCS.D#
 Date Acquired: Aug 26 2014 03:21 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4504
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.09 ug/l	10.83	0.10 69.5 - 130	
11 B	18.81 ug/l	1.44	20.00 69.5 - 130	
23 Na	40.29 ug/l	0.93	50.00 69.5 - 130	
24 Mg	56.55 ug/l	0.20	50.00 69.5 - 130	
27 Al	13.53 ug/l	1.28	10.00 69.5 - 130	Fail
39 K	38.62 ug/l	0.74	50.00 69.5 - 130	
40 Ca	58.70 ug/l	0.13	50.00 69.5 - 130	
47 Ti	1.03 ug/l	8.03	1.00 69.5 - 130	
51 V	0.93 ug/l	2.57	1.00 69.5 - 130	
52 Cr	0.96 ug/l	0.99	1.00 69.5 - 130	
55 Mn	1.28 ug/l	1.11	1.00 69.5 - 130	
56 Fe	28.98 ug/l	0.05	20.00 69.5 - 130	Fail
59 Co	0.10 ug/l	9.12	0.10 69.5 - 130	
60 Ni	1.00 ug/l	5.53	1.00 69.5 - 130	
63 Cu	0.94 ug/l	3.22	1.00 69.5 - 130	
66 Zn	3.98 ug/l	2.94	4.00 69.5 - 130	
75 As	0.50 ug/l	2.50	0.50 69.5 - 130	
78 Se	0.48 ug/l	3.45	0.50 69.5 - 130	
88 Sr	0.20 ug/l	3.73	0.20 69.5 - 130	
95 Mo	0.95 ug/l	5.53	1.00 69.5 - 130	
107 Ag	0.20 ug/l	7.33	0.20 69.5 - 130	
111 Cd	0.10 ug/l	6.59	0.10 69.5 - 130	
118 Sn	1.05 ug/l	3.77	1.00 69.5 - 130	
121 Sb	0.96 ug/l	2.39	1.00 69.5 - 130	
137 Ba	0.97 ug/l	3.51	1.00 69.5 - 130	
202 Hg	0.12 ug/l	1.05	0.16 69.5 - 130	
205 Tl	0.18 ug/l	6.75	0.20 69.5 - 130	
208 Pb	0.28 ug/l	4.46	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	360685.81	0.66	442436.88	81.5	60 - 125		
45 Sc	379005.34	0.34	456299.72	83.1	60 - 125		
45 Sc	653045.38	0.50	765061.25	85.4	60 - 125		
74 Ge	133115.47	0.37	153441.28	86.8	60 - 125		
74 Ge	40930.65	0.54	47804.94	85.6	60 - 125		
74 Ge	200552.06	0.37	224564.78	89.3	60 - 125		
89 Y	1202051.80	1.14	1302847.50	92.3	60 - 125		
115 In	1240931.90	0.43	1366177.60	90.8	60 - 125		
159 Tb	1782135.80	1.00	2052817.90	86.8	60 - 125		
209 Bi	1135861.50	3.35	1405468.50	80.8	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\337_CCV.D\337_CCV.D#
 Date Acquired: Aug 26 2014 03:28 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.58 ug/l	0.76	50.00	89.5 - 110		76954.08	76081.13	76856.77
11 B	94.09 ug/l	1.43	100.00	89.5 - 110		117186.00	118977.07	119741.02
23 Na	5124 ug/l	0.98	5000.00	89.5 - 110		15127880.00	15161820.00	15361880.00
24 Mg	5096 ug/l	0.80	5000.00	89.5 - 110		10524444.00	10501037.00	10651323.00
27 Al	525.9 ug/l	0.41	500.00	89.5 - 110		1296067.50	1287025.10	1301176.90
39 K	4966 ug/l	0.60	5000.00	89.5 - 110		1562654.80	1542951.40	1565611.40
40 Ca	5255 ug/l	0.85	5000.00	89.5 - 110		29772946.00	29950550.00	30081920.00
47 Ti	51.39 ug/l	1.85	50.00	89.5 - 110		51962.66	51073.23	50662.17
51 V	48.91 ug/l	0.31	50.00	89.5 - 110		118497.49	118308.27	119050.72
52 Cr	48.3 ug/l	0.77	50.00	89.5 - 110		141138.42	141745.97	143094.33
55 Mn	502.3 ug/l	0.42	500.00	89.5 - 110		8849213.00	8810063.00	8920059.00
56 Fe	5409 ug/l	0.46	5000.00	89.5 - 110		40223672.00	40206188.00	40148132.00
59 Co	48.81 ug/l	0.52	50.00	89.5 - 110		652300.81	649717.81	653449.19
60 Ni	49.73 ug/l	0.60	50.00	89.5 - 110		54004.97	53888.98	54533.06
63 Cu	48.44 ug/l	0.62	50.00	89.5 - 110		144297.92	145433.08	144950.81
66 Zn	48.33 ug/l	0.33	50.00	89.5 - 110		93899.24	93952.54	95286.27
75 As	50.16 ug/l	0.94	50.00	89.5 - 110		15839.52	15923.92	16112.76
78 Se	50.47 ug/l	0.77	50.00	89.5 - 110		11951.59	11778.49	11807.50
88 Sr	48.34 ug/l	1.30	50.00	89.5 - 110		1156359.00	1150145.90	1146672.30
95 Mo	49.25 ug/l	1.08	50.00	89.5 - 110		182583.22	182395.77	185690.77
107 Ag	47.63 ug/l	1.10	50.00	89.5 - 110		491800.25	495660.41	501181.75
111 Cd	47.76 ug/l	0.30	50.00	89.5 - 110		107546.12	107123.58	107779.78
118 Sn	48.23 ug/l	0.57	50.00	89.5 - 110		340311.19	341837.56	342901.75
121 Sb	47.7 ug/l	0.49	50.00	89.5 - 110		403157.03	404790.31	405488.59
137 Ba	48.28 ug/l	0.97	50.00	89.5 - 110		179860.91	180511.67	182782.00
202 Hg	2.506 ug/l	1.63	2.50	89.5 - 110		7361.37	7337.36	7351.37
205 Tl	9.279 ug/l	1.69	10.00	89.5 - 110		227500.09	226804.27	226619.89
208 Pb	46.53 ug/l	1.78	50.00	89.5 - 110		1555812.50	1540837.90	1554093.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	364641.78	0.34	442436.88	82.4	60 - 125		365605.50	365052.50	363267.34
45 Sc	384062.75	0.47	456299.72	84.2	60 - 125		385768.78	382199.28	384220.31
45 Sc	676315.75	0.55	765061.25	88.4	60 - 125		672514.56	676443.81	679988.94
74 Ge	135122.47	0.14	153441.28	88.1	60 - 125		135122.27	134927.14	135318.00
74 Ge	41817.03	0.23	47804.94	87.5	60 - 125		41903.52	41710.85	41836.72
74 Ge	205787.28	0.59	224564.78	91.6	60 - 125		204732.05	205527.53	207102.28
89 Y	1225496.60	0.87	1302847.50	94.1	60 - 125		1214492.30	1226192.40	1235805.30
115 In	1257935.80	0.22	1366177.60	92.1	60 - 125		1260997.90	1255738.30	1257070.90
159 Tb	1805871.30	1.47	2052817.90	88.0	60 - 125		1775687.50	1816385.40	1825541.00
209 Bi	1157154.30	0.40	1405468.50	82.3	60 - 125		1158448.10	1151983.40	1161031.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H24k00.B\338_CCB.D\338_CCB.D#
 Date Acquired: Aug 26 2014 03:35 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005718	0.005718	ug/l	97.27	#VALUE!		20.00	6.67	3.33
11 B # 3	1.261	1.261	ug/l	7.14	#VALUE!		3700.43	3493.73	3590.42
23 Na # 1	-13.6	-13.6	ug/l	0.88	#VALUE!		40696.84	40927.40	41341.44
24 Mg # 1	0.5204	0.5204	ug/l	20.27	#VALUE!		2163.52	2020.16	1743.47
27 Al # 1	0.6463	0.6463	ug/l	13.21	#VALUE!		3097.00	3040.35	2713.60
39 K # 2	-10.58	-10.58	ug/l	9.21	#VALUE!		8121.97	8478.87	8772.28
40 Ca # 1	1.061	1.061	ug/l	8.80	#VALUE!		28108.10	27941.18	27143.37
47 Ti # 3	-0.03549	-0.03549	ug/l	54.75	#VALUE!		56.67	46.67	83.34
51 V # 2	-0.00886	-0.00886	ug/l	23.75	#VALUE!		184.45	193.34	187.78
52 Cr # 2	-0.0134	-0.0134	ug/l	38.52	#VALUE!		264.45	268.89	243.34
55 Mn # 3	0.1646	0.1646	ug/l	7.70	#VALUE!		4478.27	4100.58	4060.56
56 Fe # 1	2.823	2.823	ug/l	9.50	#VALUE!		25761.81	25251.14	22130.25
59 Co # 3	0.004293	0.004293	ug/l	38.51	#VALUE!		116.67	143.34	100.00
60 Ni # 2	0.002819	0.002819	ug/l	21.25	#VALUE!		47.78	48.89	48.89
63 Cu # 2	-0.0386	-0.0386	ug/l	15.08	#VALUE!		276.67	296.67	265.56
66 Zn # 3	-0.02817	-0.02817	ug/l	44.62	#VALUE!		503.35	550.02	526.69
75 As # 2	0.004605	0.004605	ug/l	48.06	#VALUE!		15.67	14.33	14.67
78 Se # 1	-0.02698	-0.02698	ug/l	16.48	#VALUE!		10.67	12.33	12.67
88 Sr # 3	0.006584	0.006584	ug/l	37.33	#VALUE!		250.01	300.01	363.35
95 Mo # 3	0.03857	0.03857	ug/l	12.87	#VALUE!		266.68	233.34	260.01
107 Ag # 3	0.0004614	0.0004614	ug/l	108.69	#VALUE!		120.00	116.67	126.67
111 Cd # 3	0.003672	0.003672	ug/l	84.15	#VALUE!		19.94	16.62	6.61
118 Sn # 3	0.111	0.111	ug/l	7.64	#VALUE!		1440.10	1410.10	1523.45
121 Sb # 3	0.02447	0.02447	ug/l	10.12	#VALUE!		266.68	226.67	243.34
137 Ba # 3	0.01958	0.01958	ug/l	8.82	#VALUE!		110.00	116.67	103.34
202 Hg # 3	0.00321	0.00321	ug/l	20.82	#VALUE!		122.00	119.33	123.00
205 Tl # 3	-0.00311	-0.00311	ug/l	46.82	#VALUE!		96.67	70.00	140.01
208 Pb # 3	-0.009401	-0.009401	ug/l	20.20	#VALUE!		983.38	1026.71	906.71

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	367272.84	0.33	442436.88	83.0	60 - 125		366770.19	368649.31	366399.06
45 Sc # 1	377999.47	0.42	456299.72	82.8	60 - 125		376662.19	379729.16	377607.06
45 Sc # 3	658325.00	0.38	765061.25	86.0	60 - 125		660085.94	655480.19	659408.81
74 Ge # 1	133992.69	0.34	153441.28	87.3	60 - 125		133459.44	134252.44	134266.19
74 Ge # 2	41350.81	0.53	47804.94	86.5	60 - 125		41301.11	41160.77	41590.55
74 Ge # 3	203275.48	0.24	224564.78	90.5	60 - 125		203792.44	203204.94	202829.03
89 Y # 3	1215289.90	0.93	1302847.50	93.3	60 - 125		1227080.90	1204455.90	1214333.10
115 In # 3	1259405.30	0.38	1366177.60	92.2	60 - 125		1254516.60	1264014.30	1259685.00
159 Tb # 3	1780866.40	0.35	2052817.90	86.8	60 - 125		1774177.50	1782131.00	1786290.80
209 Bi # 3	1161022.80	0.61	1405468.50	82.6	60 - 125		1165901.30	1164293.50	1152873.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\001_CCV.D\001_CCV.D#
 Date Acquired: Aug 26 2014 07:53 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info: MS_CCVcpi_00182
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.81 ug/l	1.03	50.00	89.5 - 110		75140.18	75227.23	74942.86
11 B	96.6 ug/l	0.94	100.00	89.5 - 110		113665.09	114831.95	113792.42
23 Na	5208 ug/l	0.33	5000.00	89.5 - 110		14877976.00	14870228.00	14841643.00
24 Mg	5205 ug/l	0.82	5000.00	89.5 - 110		10317185.00	10423341.00	10352368.00
27 Al	534.3 ug/l	0.71	500.00	89.5 - 110		1267110.60	1273243.40	1252218.00
39 K	4857 ug/l	0.90	5000.00	89.5 - 110		1425612.80	1457896.90	1452841.60
40 Ca	5297 ug/l	0.42	5000.00	89.5 - 110		28992366.00	29056900.00	28937060.00
47 Ti	52.36 ug/l	1.44	50.00	89.5 - 110		47911.72	49495.97	49796.66
51 V	48.79 ug/l	0.94	50.00	89.5 - 110		111574.20	112114.02	113301.20
52 Cr	48.43 ug/l	0.81	50.00	89.5 - 110		134177.66	135058.55	136109.44
55 Mn	498.1 ug/l	1.09	500.00	89.5 - 110		8299731.50	8415867.00	8476300.00
56 Fe	5449 ug/l	0.20	5000.00	89.5 - 110		39006268.00	38879436.00	38828492.00
59 Co	49.9 ug/l	0.77	50.00	89.5 - 110		632561.69	634138.56	644295.00
60 Ni	49.88 ug/l	0.47	50.00	89.5 - 110		51176.86	52105.01	51359.68
63 Cu	48.35 ug/l	0.67	50.00	89.5 - 110		136218.45	137531.00	138068.44
66 Zn	49.09 ug/l	0.67	50.00	89.5 - 110		90260.77	91537.20	93105.31
75 As	50.65 ug/l	1.15	50.00	89.5 - 110		15079.21	15353.77	15453.19
78 Se	51.22 ug/l	0.08	50.00	89.5 - 110		11631.72	11595.36	11551.34
88 Sr	49.64 ug/l	1.16	50.00	89.5 - 110		1098502.10	1101046.50	1129937.80
95 Mo	50.26 ug/l	0.98	50.00	89.5 - 110		176084.11	178373.45	178895.95
107 Ag	49.06 ug/l	1.13	50.00	89.5 - 110		478215.66	486957.44	489973.13
111 Cd	49.08 ug/l	0.71	50.00	89.5 - 110		103801.19	104800.67	105860.14
118 Sn	49.51 ug/l	1.10	50.00	89.5 - 110		329610.84	334408.34	334603.59
121 Sb	49 ug/l	0.92	50.00	89.5 - 110		391653.13	395241.25	396038.06
137 Ba	50.12 ug/l	0.20	50.00	89.5 - 110		177593.45	177338.22	180184.47
202 Hg	2.579 ug/l	0.88	2.50	89.5 - 110		7255.01	7234.33	7293.35
205 Tl	9.549 ug/l	1.19	10.00	89.5 - 110		223509.63	224577.97	224653.41
208 Pb	47.9 ug/l	0.81	50.00	89.5 - 110		1524329.50	1530313.30	1542428.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	341740.03	0.92	442436.88	77.2	60 - 125		338299.16	342465.47	344455.41
45 Sc	369085.81	0.43	456299.72	80.9	60 - 125		370817.50	368785.34	367654.63
45 Sc	335675.44	0.69	765061.25	83.1	60 - 125		631222.63	635758.25	640045.38
74 Ge	130311.47	0.29	153441.28	84.9	60 - 125		130719.52	130257.29	129957.60
74 Ge	39691.23	0.49	47804.94	83.0	60 - 125		39546.08	39910.24	39617.40
74 Ge	196725.95	1.77	224564.78	87.6	60 - 125		194417.78	195021.09	200738.95
89 Y	1150710.80	1.21	1302847.50	88.3	60 - 125		1154360.80	1135379.40	1162392.30
115 In	1193830.40	1.03	1366177.60	87.4	60 - 125		1189434.80	1184283.50	1207772.90
159 Tb	1733648.30	1.27	2052817.90	84.5	60 - 125		1725331.40	1716953.80	1758659.40
209 Bi	1076024.80	0.79	1405468.50	76.6	60 - 125		1066852.00	1077664.40	1083558.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\002_CCB.D\002_CCB.D#
 Date Acquired: Aug 26 2014 08:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.001752	0.001752	ug/l	2.81	#VALUE!		3.33	3.33	3.33
11 B #3	0.7416	0.7416	ug/l	14.47	#VALUE!		2726.92	2623.58	2606.91
23 Na #1	-12.83	-12.83	ug/l	0.44	#VALUE!		39721.41	40068.88	39430.82
24 Mg #1	0.7839	0.7839	ug/l	12.32	#VALUE!		2450.24	2383.55	2100.18
27 Al #1	0.8309	0.8309	ug/l	18.39	#VALUE!		3357.05	3293.71	2723.61
39 K #2	-11.27	-11.27	ug/l	6.82	#VALUE!		7625.06	7261.63	7551.68
40 Ca #1	1.136	1.136	ug/l	8.61	#VALUE!		26188.61	26262.22	25210.61
47 Ti #3	-0.05565	-0.05565	ug/l	37.52	#VALUE!		33.33	23.33	60.00
51 V #2	-0.02215	-0.02215	ug/l	47.59	#VALUE!		122.22	167.78	136.67
52 Cr #2	-0.01389	-0.01389	ug/l	33.70	#VALUE!		222.23	247.78	231.11
55 Mn #3	0.06742	0.06742	ug/l	4.71	#VALUE!		2243.53	2303.53	2410.23
56 Fe #1	3.034	3.034	ug/l	9.75	#VALUE!		24817.05	25271.07	21439.59
59 Co #3	0.001612	0.001612	ug/l	91.69	#VALUE!		96.67	63.34	73.34
60 Ni #2	-0.01306	-0.01306	ug/l	26.86	#VALUE!		27.78	32.22	25.56
63 Cu #2	-0.08652	-0.08652	ug/l	2.52	#VALUE!		120.00	132.22	124.45
66 Zn #3	-0.09141	-0.09141	ug/l	11.54	#VALUE!		353.35	366.68	400.02
75 As #2	0.001275	0.001275	ug/l	303.69	#VALUE!		13.67	12.33	11.67
78 Se #1	-0.03066	-0.03066	ug/l	29.27	#VALUE!		8.00	11.33	11.33
88 Sr #3	0.003974	0.003974	ug/l	37.44	#VALUE!		226.68	186.67	253.34
95 Mo #3	0.02342	0.02342	ug/l	43.38	#VALUE!		220.01	166.67	160.01
107 Ag #3	-0.00229	-0.00229	ug/l	65.59	#VALUE!		100.00	83.34	73.34
111 Cd #3	0.005779	0.005779	ug/l	32.05	#VALUE!		19.95	13.30	19.97
118 Sn #3	0.005011	0.005011	ug/l	69.39	#VALUE!		663.37	666.70	636.70
121 Sb #3	0.01601	0.01601	ug/l	4.06	#VALUE!		153.34	163.34	166.67
137 Ba #3	0.01009	0.01009	ug/l	36.06	#VALUE!		63.34	83.34	60.00
202 Hg #3	-0.005562	-0.005562	ug/l	48.15	#VALUE!		89.67	84.67	99.67
205 Tl #3	-0.003453	-0.003453	ug/l	17.79	#VALUE!		93.34	73.34	100.00
208 Pb #3	-0.01942	-0.01942	ug/l	2.32	#VALUE!		603.36	596.69	626.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	330835.91	2.10	442436.88	74.8	60 - 125		323411.16	331921.50	337175.09
45 Sc #1	347616.41	0.82	456299.72	76.2	60 - 125		345969.72	350912.53	345967.06
45 Sc #3	597935.75	1.62	765061.25	78.2	60 - 125		587945.00	598555.06	607307.13
74 Ge #1	124185.59	0.37	153441.28	80.9	60 - 125		124303.00	124578.27	123675.48
74 Ge #2	37521.50	0.67	47804.94	78.5	60 - 125		37252.42	37564.18	37747.91
74 Ge #3	187083.30	1.44	224564.78	83.3	60 - 125		184594.89	186709.36	189945.64
89 Y #3	1110673.90	1.19	1302847.50	85.2	60 - 125		1098771.50	1108287.80	1124962.50
115 In #3	1167321.60	1.18	1366177.60	85.4	60 - 125		1153003.60	1168470.40	1180490.90
159 Tb #3	1685994.30	1.46	2052817.90	82.1	60 - 125		1657931.40	1695962.30	1704089.10
209 Bi #3	1075415.80	1.05	1405468.50	76.5	60 - 125		1062537.90	1079922.10	1083787.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\003ICSA.D\003ICSA.D#
 Date Acquired: Aug 26 2014 08:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.01729 ug/l	14.99	---	
11 B	0.5444 ug/l	10.18	---	
23 Na	98530 ug/l	0.44	1.20	
24 Mg	97100 ug/l	0.66	1.20	
27 Al	98160 ug/l	0.32	1.20	
39 K	98240 ug/l	0.90	1.20	
40 Ca	104400 ug/l	1.08	1.20	
47 Ti	2063 ug/l	0.54	1.20	
51 V	0.01857 ug/l	24.66	---	
52 Cr	1.241 ug/l	1.23	---	
55 Mn	0.6691 ug/l	2.11	---	
56 Fe	99510 ug/l	0.39	1.20	
59 Co	0.1047 ug/l	5.04	---	
60 Ni	0.1491 ug/l	6.22	---	
63 Cu	0.4667 ug/l	2.20	---	
66 Zn	1.786 ug/l	4.50	---	
75 As	0.09928 ug/l	16.90	---	
78 Se	-0.003586 ug/l	127.83	---	
88 Sr	0.6135 ug/l	1.55	---	
95 Mo	2104 ug/l	1.03	1.20	
107 Ag	0.01557 ug/l	9.44	---	
111 Cd	0.178 ug/l	35.20	---	
118 Sn	0.006497 ug/l	164.69	---	
121 Sb	0.03484 ug/l	2.28	---	
137 Ba	0.09908 ug/l	9.47	---	
202 Hg	-0.004025 ug/l	95.48	---	
205 Tl	-0.003439 ug/l	11.95	---	
208 Pb	0.1494 ug/l	1.61	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	374135.44	1.33		442436.88	84.6	60 - 125	
45 Sc	395357.72	0.15		456299.72	86.6	60 - 125	
45 Sc	702361.31	1.19		765061.25	91.8	60 - 125	
74 Ge	129761.15	0.46		153441.28	84.6	60 - 125	
74 Ge	40550.86	0.53		47804.94	84.8	60 - 125	
74 Ge	201730.14	1.47		224564.78	89.8	60 - 125	
89 Y	1226722.50	0.75		1302847.50	94.2	60 - 125	
115 In	1195401.50	1.56		1366177.60	87.5	60 - 125	
159 Tb	1740977.40	1.25		2052817.90	84.8	60 - 125	
209 Bi	974107.50	0.81		1405468.50	69.3	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\004ICSB.D\004ICSB.D#
 Date Acquired: Aug 26 2014 08:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.01 ug/l	38.28	--- ##### - #####	
11 B	0.20 ug/l	27.02	--- ##### - #####	
23 Na	98580.00 ug/l	0.63	100000.00 80 - 120	
24 Mg	97190.00 ug/l	0.63	100000.00 80 - 120	
27 Al	98070.00 ug/l	0.46	100000.00 80 - 120	
39 K	97810.00 ug/l	0.70	100000.00 80 - 120	
40 Ca	104300.00 ug/l	0.42	100000.00 80 - 120	
47 Ti	2057.00 ug/l	0.34	2000.00 80 - 120	
51 V	0.00 ug/l	297.22	--- ##### - #####	
52 Cr	21.18 ug/l	0.94	20.00 80 - 120	
55 Mn	21.25 ug/l	0.77	20.00 80 - 120	
56 Fe	99570.00 ug/l	0.51	100000.00 80 - 120	
59 Co	20.46 ug/l	0.28	20.00 80 - 120	
60 Ni	19.54 ug/l	0.54	20.00 80 - 120	
63 Cu	18.55 ug/l	0.15	20.00 80 - 120	
66 Zn	19.88 ug/l	0.44	20.00 80 - 120	
75 As	20.84 ug/l	0.60	20.00 80 - 120	
78 Se	-0.03 ug/l	40.56	--- ##### - #####	
88 Sr	0.61 ug/l	0.55	--- ##### - #####	
95 Mo	2089.00 ug/l	0.21	2000.00 80 - 120	
107 Ag	17.98 ug/l	0.96	20.00 80 - 120	
111 Cd	18.59 ug/l	1.74	20.00 80 - 120	
118 Sn	0.01 ug/l	17.35	--- ##### - #####	
121 Sb	0.04 ug/l	26.90	--- ##### - #####	
137 Ba	0.10 ug/l	7.16	--- ##### - #####	
202 Hg	-0.01 ug/l	10.08	--- ##### - #####	
205 Tl	0.00 ug/l	13.91	--- ##### - #####	
208 Pb	0.15 ug/l	1.86	--- ##### - #####	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	373839.44	1.28	442436.88	84.5	60 - 125		
45 Sc	396429.16	0.38	456299.72	86.9	60 - 125		
45 Sc	699747.88	1.00	765061.25	91.5	60 - 125		
74 Ge	130099.48	0.27	153441.28	84.8	60 - 125		
74 Ge	40206.41	0.64	47804.94	84.1	60 - 125		
74 Ge	201334.14	0.39	224564.78	89.7	60 - 125		
89 Y	1233733.90	0.61	1302847.50	94.7	60 - 125		
115 In	1200873.90	0.05	1366177.60	87.9	60 - 125		
159 Tb	1755710.10	1.29	2052817.90	85.5	60 - 125		
209 Bi	972781.00	0.68	1405468.50	69.2	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\005SMPL.D\005SMPL.D#
 Date Acquired: Aug 26 2014 08:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006503	0.006503	ug/l	99.65	100.00		13.33	20.00	0.00
11 B # 3	-0.1564	-0.1564	ug/l	115.41	1800.00		1633.44	1716.78	1823.47
23 Na # 1	2.175	2.175	ug/l	9.00	81000.00		86463.71	86111.98	85224.54
24 Mg # 1	10.78	10.78	ug/l	1.42	81000.00		22927.52	22733.96	22280.13
27 Al # 1	15.96	15.96	ug/l	17.66	81000.00		35750.41	47504.99	35556.90
39 K # 2	-5.984	-5.984	ug/l	20.09	81000.00		10159.66	9996.25	9599.38
40 Ca # 1	12.23	12.23	ug/l	0.82	81000.00		89695.20	88931.60	89390.13
47 Ti # 3	0.3844	0.3844	ug/l	19.17	1620.00		436.69	426.68	476.69
51 V # 2	0.006728	0.006728	ug/l	126.87	1800.00		208.89	251.12	221.11
52 Cr # 2	0.0009781	0.0009781	ug/l	1080.70	1800.00		293.34	275.56	337.78
55 Mn # 3	0.6626	0.6626	ug/l	11.30	1800.00		12521.23	12347.77	12831.41
56 Fe # 1	29.57	29.57	ug/l	0.43	81000.00		218491.80	217361.38	216937.83
59 Co # 3	0.01272	0.01272	ug/l	13.84	1800.00		243.34	256.68	183.34
60 Ni # 2	-0.009028	-0.009028	ug/l	49.19	1800.00		40.00	36.67	31.11
63 Cu # 2	-0.07422	-0.07422	ug/l	6.99	1800.00		161.11	193.34	172.22
66 Zn # 3	-0.05358	-0.05358	ug/l	81.69	1800.00		463.35	420.02	510.02
75 As # 2	0.006843	0.006843	ug/l	56.09	100.00		16.33	14.33	16.33
78 Se # 1	-0.0441	-0.0441	ug/l	13.51	100.00		9.00	6.33	8.33
88 Sr # 3	0.02074	0.02074	ug/l	10.10	1800.00		600.03	640.03	603.37
95 Mo # 3	0.7638	0.7638	ug/l	11.05	1800.00		2870.32	2756.96	2923.66
107 Ag # 3	0.0006896	0.0006896	ug/l	518.71	100.00		100.00	106.67	146.67
111 Cd # 3	0.003271	0.003271	ug/l	108.90	100.00		12.70	6.06	19.36
118 Sn # 3	-0.0285	-0.0285	ug/l	11.19	1800.00		470.02	456.69	436.69
121 Sb # 3	0.00805	0.00805	ug/l	65.04	100.00		60.00	113.34	130.00
137 Ba # 3	0.07273	0.07273	ug/l	2.24	1800.00		310.01	320.01	270.01
202 Hg # 3	-0.01716	-0.01716	ug/l	20.25	5.00		54.33	73.67	58.00
205 Tl # 3	-0.003691	-0.003691	ug/l	12.34	20.00		83.34	103.34	73.34
208 Pb # 3	0.01535	0.01535	ug/l	56.18	1800.00		1773.43	1583.41	1846.77
232 Th # 3	0.02019	0.02019	ug/l	21.31	#VALUE!		836.72	960.06	1003.41
238 U # 3	0.006451	0.006451	ug/l	13.89	#VALUE!		233.34	273.35	263.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	34893.84	6.77	442436.88	78.9	60 - 125		361374.84	363643.91	321662.84
45 Sc # 1	373949.75	0.23	456299.72	82.0	60 - 125		373727.28	374899.56	373222.38
45 Sc # 3	632584.81	8.65	765061.25	82.7	60 - 125		662612.06	665703.44	569439.06
74 Ge # 1	133664.02	0.33	153441.28	87.1	60 - 125		134102.44	133667.05	133222.58
74 Ge # 2	41556.11	0.96	47804.94	86.9	60 - 125		41105.08	41709.84	41853.41
74 Ge # 3	199278.77	7.83	224564.78	88.7	60 - 125		208639.27	207944.28	181252.78
89 Y # 3	1173763.60	8.56	1302847.50	90.1	60 - 125		1223202.10	1240020.00	1058069.00
115 In # 3	1220248.10	7.81	1366177.60	89.3	60 - 125		1277397.90	1273149.30	1110197.30
159 Tb # 3	1745831.50	8.81	2052817.90	85.0	60 - 125		1842708.10	1826270.00	1568516.30
209 Bi # 3	1156502.80	7.50	1405468.50	82.3	60 - 125		1204375.30	1208762.40	1056370.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\006SMPL.D\006SMPL.D#
 Date Acquired: Aug 26 2014 08:30 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.008661	0.008661	ug/l	38.15	100.00		13.33	20.00	10.00
11 B # 3	-0.2762	-0.2762	ug/l	29.82	1800.00		1626.78	1750.13	1576.78
23 Na # 1	-2.556	-2.556	ug/l	3.27	81000.00		73118.69	72841.00	73282.95
24 Mg # 1	7.444	7.444	ug/l	4.55	81000.00		16680.90	16130.41	15449.87
27 Al # 1	10.88	10.88	ug/l	2.32	81000.00		27733.80	28156.45	27229.83
39 K # 2	-8.084	-8.084	ug/l	7.26	81000.00		9319.26	9085.76	9402.59
40 Ca # 1	8.896	8.896	ug/l	3.31	81000.00		73221.22	70950.18	70615.13
47 Ti # 3	0.2603	0.2603	ug/l	9.31	1620.00		323.35	373.35	356.68
51 V # 2	0.009534	0.009534	ug/l	59.70	1800.00		222.23	250.00	228.89
52 Cr # 2	0.001004	0.001004	ug/l	480.88	1800.00		284.45	314.45	307.78
55 Mn # 3	0.6391	0.6391	ug/l	1.76	1800.00		12554.58	12607.96	13051.60
56 Fe # 1	23.91	23.91	ug/l	2.53	81000.00		183013.64	176300.08	176132.22
59 Co # 3	0.00907	0.00907	ug/l	17.07	1800.00		206.67	170.01	183.34
60 Ni # 2	-0.003196	-0.003196	ug/l	237.89	1800.00		48.89	44.44	33.33
63 Cu # 2	-0.08641	-0.08641	ug/l	9.11	1800.00		163.34	135.56	118.89
66 Zn # 3	-0.05401	-0.05401	ug/l	68.41	1800.00		546.69	413.35	500.02
75 As # 2	0.003991	0.003991	ug/l	230.82	100.00		11.33	16.67	16.33
78 Se # 1	-0.0426	-0.0426	ug/l	37.89	100.00		12.67	6.67	5.67
88 Sr # 3	0.01747	0.01747	ug/l	5.51	1800.00		576.69	560.02	550.02
95 Mo # 3	0.3094	0.3094	ug/l	3.40	1800.00		1233.42	1273.42	1343.43
107 Ag # 3	0.00155	0.00155	ug/l	52.76	100.00		140.00	136.67	126.67
111 Cd # 3	0.002496	0.002496	ug/l	66.15	100.00		9.73	16.39	9.70
118 Sn # 3	-0.03108	-0.03108	ug/l	4.76	1800.00		453.35	450.02	473.35
121 Sb # 3	0.008569	0.008569	ug/l	29.20	100.00		130.00	90.00	116.67
137 Ba # 3	0.06401	0.06401	ug/l	4.39	1800.00		270.01	276.68	296.68
202 Hg # 3	-0.01786	-0.01786	ug/l	9.66	5.00		60.67	59.00	69.00
205 Tl # 3	-0.002892	-0.002892	ug/l	27.98	20.00		110.00	130.01	90.00
208 Pb # 3	0.01359	0.01359	ug/l	5.74	1800.00		1720.09	1773.43	1813.47
232 Th # 3	0.01637	0.01637	ug/l	6.34	#VALUE!		830.05	880.06	806.71
238 U # 3	0.006779	0.006779	ug/l	10.63	#VALUE!		280.01	306.68	253.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	362044.25	1.41	442436.88	81.8	60 - 125		357580.09	360946.91	367605.81
45 Sc # 1	377876.63	0.55	456299.72	82.8	60 - 125		376939.75	376413.16	380276.94
45 Sc # 3	662697.81	0.93	765061.25	86.6	60 - 125		656606.44	662570.50	668916.50
74 Ge # 1	135272.17	0.37	153441.28	88.2	60 - 125		135290.92	134767.59	135758.00
74 Ge # 2	41547.55	0.61	47804.94	86.9	60 - 125		41257.63	41664.09	41720.94
74 Ge # 3	207518.63	1.29	224564.78	92.4	60 - 125		204463.33	208711.28	209381.27
89 Y # 3	1216884.90	1.63	1302847.50	93.4	60 - 125		1195373.40	1220734.90	1234546.40
115 In # 3	1278933.00	1.51	1366177.60	93.6	60 - 125		1256970.90	1286729.60	1293098.60
159 Tb # 3	1823546.90	1.36	2052817.90	88.8	60 - 125		1794882.00	1836624.10	1839134.50
209 Bi # 3	1200599.60	1.84	1405468.50	85.4	60 - 125		1175046.50	1213186.40	1213565.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\007SMPL.D\007SMPL.D#
 Date Acquired: Aug 26 2014 08:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006568	0.006568	ug/l	18.91	100.00		10.00	13.33	10.00
11 B # 3	-0.2648	-0.2648	ug/l	20.01	1800.00		1563.44	1686.78	1713.46
23 Na # 1	-3.855	-3.855	ug/l	6.68	81000.00		69309.39	68262.18	68224.32
24 Mg # 1	6.05	6.05	ug/l	1.41	81000.00		13141.43	12931.36	13264.87
27 Al # 1	9.456	9.456	ug/l	0.86	81000.00		23851.88	24262.46	23935.53
39 K # 2	-7.607	-7.607	ug/l	9.36	81000.00		9315.91	9042.39	9422.61
40 Ca # 1	7.62	7.62	ug/l	0.63	81000.00		63794.40	64028.80	63567.14
47 Ti # 3	0.2157	0.2157	ug/l	16.37	1620.00		313.35	333.35	263.34
51 V # 2	0.005717	0.005717	ug/l	272.35	1800.00		190.00	211.11	261.12
52 Cr # 2	0.004719	0.004719	ug/l	155.52	1800.00		312.23	285.56	325.56
55 Mn # 3	0.6409	0.6409	ug/l	0.77	1800.00		12554.56	12524.54	12797.98
56 Fe # 1	22.14	22.14	ug/l	0.19	81000.00		163384.47	164400.23	163932.23
59 Co # 3	0.01163	0.01163	ug/l	22.44	1800.00		183.34	253.34	220.01
60 Ni # 2	-0.008475	-0.008475	ug/l	105.72	1800.00		32.22	28.89	46.67
63 Cu # 2	-0.08131	-0.08131	ug/l	11.90	1800.00		158.89	121.11	175.56
66 Zn # 3	-0.0841	-0.0841	ug/l	16.17	1800.00		450.02	400.02	420.02
75 As # 2	0.008391	0.008391	ug/l	140.03	100.00		11.67	18.00	18.00
78 Se # 1	-0.04457	-0.04457	ug/l	17.79	100.00		8.67	5.67	9.00
88 Sr # 3	0.01776	0.01776	ug/l	13.58	1800.00		506.69	560.03	623.37
95 Mo # 3	0.2195	0.2195	ug/l	12.09	1800.00		846.72	1040.06	903.39
107 Ag # 3	0.0002376	0.0002376	ug/l	1116.60	100.00		93.34	116.67	146.67
111 Cd # 3	0.02423	0.02423	ug/l	145.65	100.00		13.15	153.25	16.47
118 Sn # 3	-0.02507	-0.02507	ug/l	27.44	1800.00		470.02	553.36	463.35
121 Sb # 3	0.005725	0.005725	ug/l	18.85	100.00		90.00	76.67	93.34
137 Ba # 3	0.06767	0.06767	ug/l	14.47	1800.00		263.34	333.35	276.68
202 Hg # 3	-0.01919	-0.01919	ug/l	34.44	5.00		48.00	80.00	46.67
205 Tl # 3	-0.004113	-0.004113	ug/l	11.51	20.00		80.00	90.00	66.67
208 Pb # 3	0.01139	0.01139	ug/l	35.87	1800.00		1533.42	1733.42	1750.09
232 Th # 3	0.01552	0.01552	ug/l	16.13	#VALUE!		783.38	730.04	890.05
238 U # 3	0.00699	0.00699	ug/l	5.31	#VALUE!		296.68	270.01	290.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	359483.38	1.04	442436.88	81.3	60 - 125		355818.28	359310.97	363320.84
45 Sc # 1	374012.00	0.18	456299.72	82.0	60 - 125		373234.28	374347.34	374454.38
45 Sc # 3	653382.69	0.91	765061.25	85.4	60 - 125		650713.31	660169.81	649265.06
74 Ge # 1	133616.88	0.90	153441.28	87.1	60 - 125		134897.14	133424.36	132529.14
74 Ge # 2	40858.96	0.22	47804.94	85.5	60 - 125		40837.78	40958.07	40781.04
74 Ge # 3	205171.36	0.58	224564.78	91.4	60 - 125		204174.92	204863.48	206475.70
89 Y # 3	1204107.10	0.39	1302847.50	92.4	60 - 125		1198822.50	1205771.60	1207727.10
115 In # 3	1262060.10	0.80	1366177.60	92.4	60 - 125		1269936.90	1265537.10	1250706.30
159 Tb # 3	1800555.60	0.96	2052817.90	87.7	60 - 125		1819727.90	1795483.10	1786455.80
209 Bi # 3	1190612.80	1.18	1405468.50	84.7	60 - 125		1203909.30	1192001.50	1175927.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\008SMPL.D\008SMPL.D#
 Date Acquired: Aug 26 2014 08:46 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00298	0.00298	ug/l	40.54	100.00		3.33	6.67	6.67
11 B # 3	-0.2726	-0.2726	ug/l	41.67	1800.00		1616.78	1783.47	1540.10
23 Na # 1	-8.044	-8.044	ug/l	1.06	81000.00		56713.97	56566.52	56967.89
24 Mg # 1	2.042	2.042	ug/l	4.41	81000.00		5047.45	4860.74	5220.86
27 Al # 1	2.919	2.919	ug/l	1.05	81000.00		8292.01	8475.43	8408.72
39 K # 2	-10.89	-10.89	ug/l	0.53	81000.00		8255.37	8225.33	8295.34
40 Ca # 1	2.395	2.395	ug/l	2.83	81000.00		34926.16	34615.45	35333.57
47 Ti # 3	0.03882	0.03882	ug/l	25.97	1620.00		143.34	126.67	133.34
51 V # 2	-0.008669	-0.008669	ug/l	35.19	1800.00		194.45	181.11	184.45
52 Cr # 2	-0.009096	-0.009096	ug/l	99.66	1800.00		237.78	285.56	281.12
55 Mn # 3	0.1821	0.1821	ug/l	2.01	1800.00		4550.69	4474.00	4614.05
56 Fe # 1	6.839	6.839	ug/l	1.23	81000.00		52561.57	53591.11	53962.15
59 Co # 3	0.002225	0.002225	ug/l	68.49	1800.00		80.00	116.67	83.34
60 Ni # 2	-0.01754	-0.01754	ug/l	32.85	1800.00		20.00	32.22	26.67
63 Cu # 2	-0.08868	-0.08868	ug/l	8.48	1800.00		153.34	110.00	127.78
66 Zn # 3	-0.137	-0.137	ug/l	17.88	1800.00		320.01	366.68	273.34
75 As # 2	-0.003395	-0.003395	ug/l	39.06	100.00		12.67	12.00	12.00
78 Se # 1	-0.05125	-0.05125	ug/l	12.32	100.00		7.67	4.67	6.33
88 Sr # 3	0.005211	0.005211	ug/l	26.62	1800.00		263.34	306.68	243.34
95 Mo # 3	0.07763	0.07763	ug/l	11.64	1800.00		370.02	386.68	443.35
107 Ag # 3	-0.002529	-0.002529	ug/l	72.80	100.00		106.67	70.00	93.34
111 Cd # 3	0.001655	0.001655	ug/l	152.33	100.00		3.25	13.25	13.24
118 Sn # 3	-0.03864	-0.03864	ug/l	15.17	1800.00		406.68	433.35	356.68
121 Sb # 3	0.001518	0.001518	ug/l	220.36	100.00		26.67	43.33	83.34
137 Ba # 3	0.0207	0.0207	ug/l	22.70	1800.00		113.34	96.67	133.34
202 Hg # 3	-0.02021	-0.02021	ug/l	4.48	5.00		57.33	53.00	56.67
205 Tl # 3	-0.004993	-0.004993	ug/l	7.07	20.00		66.67	56.67	50.00
208 Pb # 3	-0.01024	-0.01024	ug/l	13.06	1800.00		933.38	936.71	1013.38
232 Th # 3	0.0063	0.0063	ug/l	3.54	#VALUE!		466.69	480.02	486.69
238 U # 3	0.00196	0.00196	ug/l	20.57	#VALUE!		96.67	86.67	116.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	360175.00	1.46	442436.88	81.4	60 - 125		356075.66	358341.88	366107.50
45 Sc # 1	375351.81	0.24	456299.72	82.3	60 - 125		374332.41	376014.53	375708.53
45 Sc # 3	659966.25	1.36	765061.25	86.3	60 - 125		650522.44	660936.38	668440.00
74 Ge # 1	133357.38	0.80	153441.28	86.9	60 - 125		134591.55	132781.78	132698.83
74 Ge # 2	40844.85	0.36	47804.94	85.4	60 - 125		40748.75	40770.98	41014.82
74 Ge # 3	204619.16	0.48	224564.78	91.1	60 - 125		203618.13	204659.55	205579.77
89 Y # 3	1210596.60	1.45	1302847.50	92.9	60 - 125		1191030.80	1215629.50	1225129.90
115 In # 3	1261612.40	1.27	1366177.60	92.3	60 - 125		1244455.30	1264065.60	1276316.30
159 Tb # 3	1812015.10	0.59	2052817.90	88.3	60 - 125		1800621.60	1821897.60	1813526.60
209 Bi # 3	1201250.90	0.46	1405468.50	85.5	60 - 125		1194907.10	1203476.90	1205368.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\009_CCV.D\009_CCV.D#
 Date Acquired: Aug 26 2014 08:54 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info: MS_CCVcpi_00183
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.39 ug/l	0.63	50.00	89.5 - 110		77749.83	78366.38	78680.92
11 B	96.78 ug/l	1.88	100.00	89.5 - 110		119331.63	121699.06	119228.73
23 Na	5162 ug/l	0.41	5000.00	89.5 - 110		15174408.00	15004186.00	15046543.00
24 Mg	5173 ug/l	0.23	5000.00	89.5 - 110		10544630.00	10560437.00	10510650.00
27 Al	530.9 ug/l	0.30	500.00	89.5 - 110		1288225.40	1280774.40	1286474.60
39 K	4849 ug/l	0.58	5000.00	89.5 - 110		1499332.30	1503232.60	1514017.30
40 Ca	5298 ug/l	0.44	5000.00	89.5 - 110		29896200.00	29614092.00	29509300.00
47 Ti	52.38 ug/l	0.33	50.00	89.5 - 110		51618.17	52082.54	52433.54
51 V	48.9 ug/l	0.62	50.00	89.5 - 110		116775.74	117527.93	118040.15
52 Cr	48.61 ug/l	0.40	50.00	89.5 - 110		140914.27	140857.88	142713.52
55 Mn	504.8 ug/l	1.24	500.00	89.5 - 110		8865672.00	8901212.00	9126360.00
56 Fe	5498 ug/l	0.18	5000.00	89.5 - 110		40237880.00	40100140.00	40168020.00
59 Co	49.66 ug/l	0.41	50.00	89.5 - 110		662441.38	667770.38	672907.19
60 Ni	50.09 ug/l	1.00	50.00	89.5 - 110		54125.20	53687.32	54173.29
63 Cu	48.76 ug/l	0.84	50.00	89.5 - 110		143957.45	144495.88	144768.38
66 Zn	48.9 ug/l	0.56	50.00	89.5 - 110		95527.21	95775.82	97109.62
75 As	50.78 ug/l	0.40	50.00	89.5 - 110		15914.59	15956.95	16121.77
78 Se	50.67 ug/l	0.36	50.00	89.5 - 110		11818.17	11857.86	11800.83
88 Sr	49.43 ug/l	0.48	50.00	89.5 - 110		1156237.10	1164570.00	1190566.30
95 Mo	50.36 ug/l	0.79	50.00	89.5 - 110		186149.53	188140.14	188931.22
107 Ag	48.65 ug/l	0.79	50.00	89.5 - 110		504773.63	502548.53	513644.22
111 Cd	48.97 ug/l	0.77	50.00	89.5 - 110		109738.59	109774.48	111230.67
118 Sn	49.41 ug/l	0.84	50.00	89.5 - 110		347093.81	351128.66	352186.44
121 Sb	48.81 ug/l	0.56	50.00	89.5 - 110		409567.22	414710.63	417816.63
137 Ba	49.28 ug/l	0.74	50.00	89.5 - 110		183202.69	185198.25	186120.80
202 Hg	2.585 ug/l	1.05	2.50	89.5 - 110		7498.11	7532.12	7703.55
205 Tl	9.561 ug/l	1.49	10.00	89.5 - 110		231632.13	235800.09	233993.13
208 Pb	48.02 ug/l	1.59	50.00	89.5 - 110		1594408.80	1589703.90	1614165.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	359045.13	1.02	442436.88	81.2	60 - 125		356608.13	357290.50	363236.75
45 Sc	377635.81	0.24	456299.72	82.8	60 - 125		378600.94	377453.59	376852.91
45 Sc	673993.56	0.62	765061.25	88.1	60 - 125		669148.56	676308.50	676523.50
74 Ge	134365.92	0.61	153441.28	87.6	60 - 125		134091.19	135285.61	133720.95
74 Ge	41407.20	1.08	47804.94	86.6	60 - 125		41060.54	41248.68	41912.40
74 Ge	207193.77	0.37	224564.78	92.3	60 - 125		206431.30	207181.27	207968.70
89 Y	1218732.30	1.47	1302847.50	93.5	60 - 125		1209869.30	1207026.90	1239300.50
115 In	1258360.10	1.45	1366177.60	92.1	60 - 125		1241873.60	1255273.00	1277933.50
159 Tb	1805403.30	1.97	2052817.90	87.9	60 - 125		1767004.80	1812009.10	1837196.00
209 Bi	1173345.60	0.46	1405468.50	83.5	60 - 125		1174780.80	1167364.00	1177892.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\010_CCB.D\010_CCB.D#
 Date Acquired: Aug 26 2014 09:01 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.003603	0.003603	ug/l	98.92	#VALUE!		3.33	3.33	13.33
11 B #3	0.9138	0.9138	ug/l	6.35	#VALUE!		3033.66	3237.02	3177.01
23 Na #1	-9.693	-9.693	ug/l	2.77	#VALUE!		52618.73	51696.35	51809.93
24 Mg #1	0.5283	0.5283	ug/l	21.52	#VALUE!		2213.52	1943.49	1780.14
27 Al #1	0.257	0.257	ug/l	18.32	#VALUE!		2083.50	2020.16	1883.48
39 K #2	-10.8	-10.8	ug/l	2.32	#VALUE!		8328.73	8482.10	8308.72
40 Ca #1	0.8406	0.8406	ug/l	22.16	#VALUE!		27326.97	26041.72	25627.94
47 Ti #3	-0.05337	-0.05337	ug/l	14.71	#VALUE!		50.00	36.67	50.00
51 V #2	-0.01631	-0.01631	ug/l	15.33	#VALUE!		166.67	177.78	166.67
52 Cr #2	-0.008522	-0.008522	ug/l	72.51	#VALUE!		262.23	262.23	293.34
55 Mn #3	0.03325	0.03325	ug/l	17.80	#VALUE!		1863.48	1883.48	2100.18
56 Fe #1	1.601	1.601	ug/l	6.10	#VALUE!		16044.20	15153.21	14849.63
59 Co #3	0.00102	0.00102	ug/l	16.28	#VALUE!		76.67	80.00	76.67
60 Ni #2	-0.01572	-0.01572	ug/l	10.31	#VALUE!		30.00	28.89	26.67
63 Cu #2	-0.08122	-0.08122	ug/l	6.09	#VALUE!		148.89	142.22	170.00
66 Zn #3	-0.134	-0.134	ug/l	3.81	#VALUE!		326.68	316.68	340.01
75 As #2	0.005056	0.005056	ug/l	128.07	#VALUE!		17.00	15.00	13.00
78 Se #1	-0.02337	-0.02337	ug/l	5.46	#VALUE!		12.33	13.00	12.67
88 Sr #3	0.0001154	0.0001154	ug/l	798.70	#VALUE!		153.34	126.67	173.34
95 Mo #3	0.06845	0.06845	ug/l	8.10	#VALUE!		363.35	380.02	350.01
107 Ag #3	1.674E-005	1.674E-005	ug/l	19074.00	#VALUE!		93.34	100.00	156.67
111 Cd #3	-0.0007857	-0.0007857	ug/l	105.27	#VALUE!		3.25	3.25	6.59
118 Sn #3	0.00815	0.00815	ug/l	85.61	#VALUE!		703.37	773.37	710.04
121 Sb #3	0.01937	0.01937	ug/l	13.78	#VALUE!		176.67	210.01	220.01
137 Ba #3	0.0009293	0.0009293	ug/l	150.54	#VALUE!		43.33	33.33	43.33
202 Hg #3	-0.006069	-0.006069	ug/l	29.59	#VALUE!		96.33	101.67	92.33
205 Tl #3	-0.003775	-0.003775	ug/l	3.80	#VALUE!		83.34	90.00	90.00
208 Pb #3	-0.01405	-0.01405	ug/l	40.74	#VALUE!		773.53	676.70	1057.28

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	365814.25	1.70	442436.88	82.7	60 - 125		359215.16	366707.41	371520.19
45 Sc #1	375739.38	0.58	456299.72	82.3	60 - 125		373487.03	375899.69	377831.34
45 Sc #3	668287.75	1.28	765061.25	87.4	60 - 125		659865.38	668069.75	676928.13
74 Ge #1	133381.02	0.33	153441.28	86.9	60 - 125		132886.11	133700.69	133556.23
74 Ge #2	41272.48	0.32	47804.94	86.3	60 - 125		41134.04	41395.71	41287.68
74 Ge #3	205835.30	1.57	224564.78	91.7	60 - 125		202535.42	205983.22	208987.23
89 Y #3	1207558.90	1.33	1302847.50	92.7	60 - 125		1200504.10	1196242.00	1225930.30
115 In #3	1258892.30	1.54	1366177.60	92.1	60 - 125		1262463.60	1238019.10	1276194.00
159 Tb #3	1814271.90	0.72	2052817.90	88.4	60 - 125		1805364.40	1808259.50	1829191.30
209 Bi #3	1182148.50	1.39	1405468.50	84.1	60 - 125		1165342.10	1198296.40	1182807.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\011SMPL.D\011SMPL.D#
 Date Acquired: Aug 26 2014 09:08 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345672_1-a
 Misc Info: 3005 1/5
 Vial Number: 2101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007765	0.0007765	ug/l	151.06	100.00		3.33	0.00	3.33
11 B # 3	0.448	0.448	ug/l	22.48	1800.00		2733.60	2720.26	2526.90
23 Na # 1	-8.47	-8.47	ug/l	3.86	81000.00		58776.70	57141.84	57897.19
24 Mg # 1	0.6455	0.6455	ug/l	10.93	81000.00		2470.24	2203.52	2260.20
27 Al # 1	1.136	1.136	ug/l	3.65	81000.00		4330.62	4330.63	4190.60
39 K # 2	-9.635	-9.635	ug/l	8.03	81000.00		9019.03	9065.76	8718.89
40 Ca # 1	4.147	4.147	ug/l	0.99	81000.00		46390.65	46363.86	47195.98
47 Ti # 3	-0.01949	-0.01949	ug/l	59.42	1620.00		70.00	93.34	80.00
51 V # 2	0.08496	0.08496	ug/l	14.60	1800.00		438.90	436.68	390.01
52 Cr # 2	-0.007598	-0.007598	ug/l	139.64	1800.00		253.34	273.34	318.89
55 Mn # 3	0.06887	0.06887	ug/l	10.64	1800.00		2526.91	2546.92	2810.29
56 Fe # 1	0.86	0.86	ug/l	5.41	81000.00		10649.98	10446.55	10069.70
59 Co # 3	-0.00138	-0.00138	ug/l	28.02	1800.00		43.33	43.33	53.34
60 Ni # 2	0.006273	0.006273	ug/l	63.72	1800.00		57.78	50.00	52.22
63 Cu # 2	-0.08164	-0.08164	ug/l	6.70	1800.00		172.22	153.34	142.22
66 Zn # 3	0.08665	0.08665	ug/l	10.73	1800.00		750.04	766.71	796.71
75 As # 2	0.04795	0.04795	ug/l	14.28	100.00		31.33	28.33	27.67
78 Se # 1	-0.04338	-0.04338	ug/l	26.65	100.00		9.00	10.67	5.33
88 Sr # 3	0.003935	0.003935	ug/l	17.16	1800.00		256.67	253.34	230.01
95 Mo # 3	0.02906	0.02906	ug/l	33.08	1800.00		260.01	200.01	200.01
107 Ag # 3	0.001616	0.001616	ug/l	200.37	100.00		116.67	173.35	113.34
111 Cd # 3	0.0001873	0.0001873	ug/l	1351.80	100.00		9.94	-0.04	9.96
118 Sn # 3	0.009627	0.009627	ug/l	36.76	1800.00		713.37	763.37	766.71
121 Sb # 3	0.01279	0.01279	ug/l	30.03	100.00		153.34	176.67	113.34
137 Ba # 3	0.01666	0.01666	ug/l	10.46	1800.00		103.34	103.34	93.34
202 Hg # 3	-0.02201	-0.02201	ug/l	17.23	5.00		63.00	42.67	47.00
205 Tl # 3	-0.005688	-0.005688	ug/l	8.47	20.00		53.34	30.00	40.00
208 Pb # 3	-0.009658	-0.009658	ug/l	56.77	1800.00		1187.85	843.37	936.71
232 Th # 3	0.03708	0.03708	ug/l	3.99	#VALUE!		1633.48	1570.13	1550.14
238 U # 3	0.001599	0.001599	ug/l	24.55	#VALUE!		90.00	70.00	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	378766.88	0.54	442436.88	85.6	60 - 125		377314.72	377869.66	381116.25
45 Sc # 1	391708.28	0.57	456299.72	85.8	60 - 125		389812.28	391158.06	394154.47
45 Sc # 3	687224.13	0.77	765061.25	89.8	60 - 125		683278.75	685121.13	693272.50
74 Ge # 1	138461.70	0.65	153441.28	90.2	60 - 125		138323.64	137639.67	139421.78
74 Ge # 2	42236.51	0.82	47804.94	88.4	60 - 125		41857.93	42310.01	42541.61
74 Ge # 3	209875.09	1.12	224564.78	93.5	60 - 125		209570.83	207688.92	212365.52
89 Y # 3	1238596.40	0.79	1302847.50	95.1	60 - 125		1236277.30	1230183.00	1249328.60
115 In # 3	1272275.80	0.89	1366177.60	93.1	60 - 125		1262814.60	1269117.40	1284895.10
159 Tb # 3	1829199.80	1.23	2052817.90	89.1	60 - 125		1812261.60	1820640.80	1854696.60
209 Bi # 3	1202811.60	0.85	1405468.50	85.6	60 - 125		1197336.60	1196440.80	1214657.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\012SMPL.D\012SMPL.D#
 Date Acquired: Aug 26 2014 09:16 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345672_2-a
 Misc Info: 3005 1/5
 Vial Number: 2102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.26	10.26	ug/l	2.57	100.00		16840.92	17381.36	16724.15
11 B # 3	40.3	40.3	ug/l	1.22	1800.00		54610.19	54145.41	54867.44
23 Na # 1	1047	1047	ug/l	0.52	81000.00		3196961.50	3170486.80	3193297.50
24 Mg # 1	1064	1064	ug/l	0.28	81000.00		2210339.30	2205698.30	2223092.50
27 Al # 1	1060	1060	ug/l	0.20	81000.00		2617146.80	2602188.80	2630335.50
39 K # 2	1003	1003	ug/l	0.27	81000.00		318492.59	318839.41	320556.19
40 Ca # 1	1105	1105	ug/l	0.39	81000.00		6305459.50	6325323.00	6384085.50
47 Ti # 3	20.79	20.79	ug/l	0.74	1620.00		21272.55	21299.35	21359.24
51 V # 2	20.25	20.25	ug/l	1.07	1800.00		48002.32	48446.82	49189.81
52 Cr # 2	20.32	20.32	ug/l	0.20	1800.00		58860.98	59273.34	59066.11
55 Mn # 3	106.9	106.9	ug/l	0.64	1800.00		1877546.90	1924817.30	1929969.10
56 Fe # 1	1120	1120	ug/l	0.37	81000.00		8364995.00	8312761.50	8379885.00
59 Co # 3	10.51	10.51	ug/l	1.06	1800.00		139135.50	143349.52	144317.28
60 Ni # 2	20.88	20.88	ug/l	1.03	1800.00		22121.02	22569.37	22637.20
63 Cu # 2	20.28	20.28	ug/l	0.63	1800.00		59555.54	60520.68	60073.77
66 Zn # 3	20.28	20.28	ug/l	0.81	1800.00		39546.61	41053.17	40782.66
75 As # 2	21.13	21.13	ug/l	0.37	100.00		6602.20	6671.56	6632.55
78 Se # 1	21.24	21.24	ug/l	1.19	100.00		5047.04	4929.35	5043.04
88 Sr # 3	18.82	18.82	ug/l	0.66	1800.00		454999.47	462431.13	463416.97
95 Mo # 3	20.28	20.28	ug/l	0.70	1800.00		76404.02	77050.41	76949.65
107 Ag # 3	10.26	10.26	ug/l	0.17	100.00		107232.18	109519.87	109000.27
111 Cd # 3	10.08	10.08	ug/l	0.73	100.00		22725.15	23112.26	23259.15
118 Sn # 3	40.39	40.39	ug/l	0.61	1800.00		288107.41	291501.81	292173.81
121 Sb # 3	10.03	10.03	ug/l	0.66	100.00		85635.02	86566.53	86837.42
137 Ba # 3	19.64	19.64	ug/l	0.56	1800.00		74071.29	75068.91	75219.66
202 Hg # 3	0.8845	0.8845	ug/l	1.89	5.00		2724.91	2761.58	2677.90
205 Tl # 3	7.594	7.594	ug/l	1.47	20.00		188704.38	188261.03	191559.31
208 Pb # 3	9.669	9.669	ug/l	1.32	1800.00		329872.66	329905.72	329119.41
232 Th # 3	10.15	10.15	ug/l	1.32	#VALUE!		356649.09	357003.97	359071.97
238 U # 3	9.92	9.92	ug/l	0.56	#VALUE!		359570.63	367133.47	365095.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	382776.44	1.23	442436.88	86.5	60 - 125		378092.25	382699.31	387537.75
45 Sc # 1	385483.38	0.68	456299.72	84.5	60 - 125		384921.72	383170.63	388357.84
45 Sc # 3	693256.69	0.85	765061.25	90.6	60 - 125		686544.56	697412.00	695813.44
74 Ge # 1	135387.30	0.26	153441.28	88.2	60 - 125		135791.34	135141.48	135229.08
74 Ge # 2	41230.52	0.22	47804.94	86.2	60 - 125		41125.08	41278.76	41287.74
74 Ge # 3	208425.80	1.24	224564.78	92.8	60 - 125		205608.75	210692.11	208976.56
89 Y # 3	1258254.80	0.99	1302847.50	96.6	60 - 125		1248157.10	1254509.10	1272098.10
115 In # 3	1276852.00	1.14	1366177.60	93.5	60 - 125		1261214.10	1289907.50	1279434.30
159 Tb # 3	1841834.40	1.27	2052817.90	89.7	60 - 125		1815717.00	1861011.90	1848773.90
209 Bi # 3	1178394.30	1.50	1405468.50	83.8	60 - 125		1157971.80	1188321.60	1188889.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\013SMPL.D\013SMPL.D#
 Date Acquired: Aug 26 2014 09:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104439-a-16-a
 Misc Info: 3005 1/5
 Vial Number: 2103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001463	0.001463	ug/l	0.42	100.00		3.33	3.33	3.33
11 B # 3	271.8	271.8	ug/l	0.34	1800.00		348485.69	352816.13	351123.22
23 Na # 1	158400	158400	ug/l	0.60	81000.00		476072740.00	477440900.00	470058720.00
24 Mg # 1	11210	11210	ug/l	1.93	81000.00		23687672.00	23957638.00	22979490.00
27 Al # 1	2.188	2.188	ug/l	3.08	81000.00		6958.12	7018.15	6674.68
39 K # 2	5787	5787	ug/l	11.68	81000.00		1723435.80	1793337.60	1773003.80
40 Ca # 1	32160	32160	ug/l	0.61	81000.00		186799140.00	184622210.00	185413090.00
47 Ti # 3	0.1122	0.1122	ug/l	12.45	1620.00		206.67	210.01	233.35
51 V # 2	0.1033	0.1033	ug/l	11.81	1800.00		462.23	425.57	466.68
52 Cr # 2	0.1732	0.1732	ug/l	11.32	1800.00		806.69	765.58	796.69
55 Mn # 3	199.5	199.5	ug/l	0.88	1800.00		3479008.80	3526024.50	3549635.00
56 Fe # 1	2667	2667	ug/l	0.65	81000.00		20181560.00	20212104.00	19894708.00
59 Co # 3	0.05147	0.05147	ug/l	12.60	1800.00		650.03	810.05	793.37
60 Ni # 2	0.1544	0.1544	ug/l	14.62	1800.00		201.11	197.78	226.67
63 Cu # 2	-0.04256	-0.04256	ug/l	15.26	1800.00		271.12	257.78	264.45
66 Zn # 3	2.054	2.054	ug/l	3.43	1800.00		4580.70	4707.41	4427.34
75 As # 2	3.414	3.414	ug/l	13.44	100.00		1035.70	1112.04	1056.37
78 Se # 1	1.878	1.878	ug/l	0.79	100.00		443.01	455.67	446.67
88 Sr # 3	635.2	635.2	ug/l	0.20	1800.00		15125648.00	15209326.00	15237468.00
95 Mo # 3	19.08	19.08	ug/l	0.68	1800.00		67803.13	68923.87	69141.56
107 Ag # 3	-0.0007663	-0.0007663	ug/l	264.65	100.00		80.00	116.67	116.67
111 Cd # 3	0.006725	0.006725	ug/l	104.91	100.00		35.09	4.84	21.46
118 Sn # 3	0.01491	0.01491	ug/l	23.31	1800.00		723.37	773.38	750.04
121 Sb # 3	0.3263	0.3263	ug/l	3.39	100.00		2766.97	2693.63	2650.28
137 Ba # 3	8.688	8.688	ug/l	1.58	1800.00		30755.10	31913.81	31673.56
202 Hg # 3	-0.0201	-0.0201	ug/l	1.72	5.00		54.67	54.33	55.67
205 Tl # 3	0.006058	0.006058	ug/l	16.74	20.00		346.68	303.35	316.68
208 Pb # 3	-0.009899	-0.009899	ug/l	15.16	1800.00		903.38	953.37	1003.38
232 Th # 3	0.151	0.151	ug/l	9.47	#VALUE!		5271.06	4884.24	4370.76
238 U # 3	0.01252	0.01252	ug/l	2.31	#VALUE!		430.02	426.69	410.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	377491.13	0.30	442436.88	85.3	60 - 125		376175.03	378273.75	378024.56
45 Sc # 1	389417.69	0.23	456299.72	85.3	60 - 125		389895.25	389959.22	388398.59
45 Sc # 3	694915.44	0.46	765061.25	90.8	60 - 125		691472.31	697718.63	695555.31
74 Ge # 1	132202.84	0.87	153441.28	86.2	60 - 125		131715.58	133510.22	131382.75
74 Ge # 2	40990.46	9.73	47804.94	85.7	60 - 125		45140.44	37188.06	40642.90
74 Ge # 3	205674.34	0.21	224564.78	91.6	60 - 125		205214.84	206087.58	205720.63
89 Y # 3	1230860.90	0.33	1302847.50	94.5	60 - 125		1227582.90	1229598.90	1235401.30
115 In # 3	1213051.40	1.22	1366177.60	88.8	60 - 125		1200520.80	1209285.00	1229348.10
159 Tb # 3	1775962.60	0.77	2052817.90	86.5	60 - 125		1765263.90	1791470.00	1771153.80
209 Bi # 3	1024828.80	0.39	1405468.50	72.9	60 - 125		1026140.10	1027974.90	1020371.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\014SMPL.D\014SMPL.D#
 Date Acquired: Aug 26 2014 09:30 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62381-f-1-a
 Misc Info: 3005 1/5
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0001206	0.0001206	ug/l	1003.30	100.00		0.00	3.33	0.00
11 B #3	11.42	11.42	ug/l	1.88	1800.00		16370.58	16140.43	16147.09
23 Na #1	60050	60050	ug/l	1.43	81000.00		175404430.00	171942370.00	170234020.00
24 Mg #1	7149	7149	ug/l	1.37	81000.00		14643663.00	14319536.00	14238085.00
27 Al #1	1.845	1.845	ug/l	60.11	81000.00		4437.29	4067.25	8833.58
39 K #2	1255	1255	ug/l	1.45	81000.00		383532.69	378856.97	380656.88
40 Ca #1	23400	23400	ug/l	1.12	81000.00		131216280.00	129105810.00	128121170.00
47 Ti #3	0.2003	0.2003	ug/l	20.93	1620.00		250.01	286.68	336.68
51 V #2	0.1572	0.1572	ug/l	2.16	1800.00		565.57	548.90	570.01
52 Cr #2	-0.002669	-0.002669	ug/l	340.13	1800.00		263.34	304.45	265.56
55 Mn #3	0.571	0.571	ug/l	1.25	1800.00		10996.86	10873.48	11133.65
56 Fe #1	1.889	1.889	ug/l	2.45	81000.00		17341.80	17642.25	17008.20
59 Co #3	0.02226	0.02226	ug/l	6.64	1800.00		333.35	370.01	340.02
60 Ni #2	0.07379	0.07379	ug/l	7.86	1800.00		112.22	123.33	123.33
63 Cu #2	-0.0651	-0.0651	ug/l	8.73	1800.00		193.34	206.67	178.89
66 Zn #3	0.6965	0.6965	ug/l	5.65	1800.00		1766.81	1916.82	1916.82
75 As #2	2.801	2.801	ug/l	2.15	100.00		869.69	848.02	850.69
78 Se #1	-0.03459	-0.03459	ug/l	47.88	100.00		10.00	6.00	13.33
88 Sr #3	132.5	132.5	ug/l	1.31	1800.00		3042819.00	3040854.50	3032928.30
95 Mo #3	0.2006	0.2006	ug/l	4.58	1800.00		780.05	823.38	863.38
107 Ag #3	-0.002702	-0.002702	ug/l	44.45	100.00		83.34	96.67	73.34
111 Cd #3	0.001841	0.001841	ug/l	86.75	100.00		13.16	9.82	6.48
118 Sn #3	-0.005825	-0.005825	ug/l	57.60	1800.00		623.36	596.70	593.36
121 Sb #3	0.003591	0.003591	ug/l	43.30	100.00		60.00	80.00	56.67
137 Ba #3	6.339	6.339	ug/l	2.15	1800.00		23146.33	22622.17	22752.40
202 Hg #3	-0.02393	-0.02393	ug/l	9.09	5.00		46.00	48.33	37.00
205 Tl #3	-0.002195	-0.002195	ug/l	32.53	20.00		116.67	110.00	143.34
208 Pb #3	-0.01527	-0.01527	ug/l	5.77	1800.00		773.36	800.03	746.70
232 Th #3	0.03102	0.03102	ug/l	4.90	#VALUE!		1216.75	1156.75	1246.76
238 U #3	0.0008323	0.0008323	ug/l	37.02	#VALUE!		53.34	60.00	40.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	366024.81	0.84	442436.88	82.7	60 - 125		362497.22	367517.34	368059.84
45 Sc #1	373342.91	0.17	456299.72	81.8	60 - 125		373963.19	372673.53	373391.97
45 Sc #3	658843.81	0.97	765061.25	86.1	60 - 125		652656.38	658470.75	665404.25
74 Ge #1	129619.35	0.63	153441.28	84.5	60 - 125		130301.73	129846.46	128709.88
74 Ge #2	39615.14	1.24	47804.94	82.9	60 - 125		39375.77	39287.76	40181.89
74 Ge #3	198033.61	0.81	224564.78	88.2	60 - 125		196355.30	198212.63	199532.89
89 Y #3	1180882.60	1.16	1302847.50	90.6	60 - 125		1165642.90	1184941.90	1192063.10
115 In #3	1207239.00	1.08	1366177.60	88.4	60 - 125		1193745.30	1208238.80	1219732.80
159 Tb #3	1767103.90	0.64	2052817.90	86.1	60 - 125		1754825.60	1769229.80	1777256.30
209 Bi #3	1061901.80	0.59	1405468.50	75.6	60 - 125		1054678.80	1066139.00	1064887.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\015SMPL.D\015SMPL.D#
 Date Acquired: Aug 26 2014 09:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62381-f-2-a
 Misc Info: 3005 1/5
 Vial Number: 2105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0001257	0.0001257	ug/l	969.77	100.00		0.00	0.00	3.33
11 B # 3	7.37	7.37	ug/l	2.10	1800.00		11063.44	10779.89	11093.45
23 Na # 1	15220	15220	ug/l	10.83	81000.00		39741776.00	40155212.00	40713924.00
24 Mg # 1	2955	2955	ug/l	10.80	81000.00		5424603.00	5463976.00	5510002.00
27 Al # 1	1.322	1.322	ug/l	17.38	81000.00		3943.87	4140.56	4390.63
39 K # 2	456.5	456.5	ug/l	1.37	81000.00		143080.31	143782.33	143312.20
40 Ca # 1	16670	16670	ug/l	11.85	81000.00		83161568.00	85538976.00	85263816.00
47 Ti # 3	0.2038	0.2038	ug/l	5.59	1620.00		283.34	296.68	276.68
51 V # 2	0.1353	0.1353	ug/l	5.82	1800.00		492.23	522.24	494.46
52 Cr # 2	-0.005649	-0.005649	ug/l	59.71	1800.00		258.89	265.56	271.12
55 Mn # 3	0.2224	0.2224	ug/l	1.58	1800.00		5040.83	4920.80	5080.82
56 Fe # 1	2.245	2.245	ug/l	13.51	81000.00		17909.00	18246.06	18676.46
59 Co # 3	0.01755	0.01755	ug/l	6.91	1800.00		300.01	270.01	280.01
60 Ni # 2	0.1235	0.1235	ug/l	6.09	1800.00		178.89	164.45	161.11
63 Cu # 2	-0.07002	-0.07002	ug/l	3.31	1800.00		185.56	171.11	172.22
66 Zn # 3	0.5154	0.5154	ug/l	11.62	1800.00		1440.09	1436.77	1646.80
75 As # 2	1.255	1.255	ug/l	1.62	100.00		395.67	383.00	375.00
78 Se # 1	-0.03559	-0.03559	ug/l	38.52	100.00		6.00	9.00	12.00
88 Sr # 3	85.39	85.39	ug/l	1.33	1800.00		1899784.10	1922560.00	1933051.40
95 Mo # 3	0.4772	0.4772	ug/l	3.24	1800.00		1853.49	1786.81	1790.15
107 Ag # 3	-0.004026	-0.004026	ug/l	44.39	100.00		90.00	66.67	56.67
111 Cd # 3	0.003282	0.003282	ug/l	124.41	100.00		16.26	2.94	19.61
118 Sn # 3	-0.005516	-0.005516	ug/l	75.62	1800.00		573.36	606.70	640.03
121 Sb # 3	0.005926	0.005926	ug/l	29.78	100.00		100.00	76.67	76.67
137 Ba # 3	5.895	5.895	ug/l	1.27	1800.00		20763.20	21300.54	21661.04
202 Hg # 3	-0.02634	-0.02634	ug/l	2.70	5.00		34.67	36.67	39.00
205 Tl # 3	-0.003239	-0.003239	ug/l	1.96	20.00		96.67	96.67	100.00
208 Pb # 3	-0.01374	-0.01374	ug/l	23.46	1800.00		783.37	733.37	940.04
232 Th # 3	0.01468	0.01468	ug/l	4.10	#VALUE!		710.04	713.38	683.37
238 U # 3	0.0126	0.0126	ug/l	4.49	#VALUE!		453.35	463.36	430.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	359355.81	1.38	442436.88	81.2	60 - 125		355302.69	357878.22	364886.44
45 Sc # 1	345328.13	10.15	456299.72	75.7	60 - 125		371471.81	305492.84	359019.63
45 Sc # 3	639422.19	0.73	765061.25	83.6	60 - 125		634404.19	640243.56	643618.88
74 Ge # 1	122094.04	5.70	153441.28	79.6	60 - 125		125319.56	114105.77	126856.78
74 Ge # 2	38973.01	1.17	47804.94	81.5	60 - 125		39418.05	38995.99	38504.99
74 Ge # 3	195314.70	0.65	224564.78	87.0	60 - 125		194880.08	194316.88	196747.17
89 Y # 3	1156535.30	1.66	1302847.50	88.8	60 - 125		1149279.90	1142076.50	1178249.50
115 In # 3	1206866.40	0.96	1366177.60	88.3	60 - 125		1193529.90	1212836.40	1214232.90
159 Tb # 3	1757382.50	0.46	2052817.90	85.6	60 - 125		1750251.30	1755793.30	1766103.10
209 Bi # 3	1083198.30	0.44	1405468.50	77.1	60 - 125		1081501.00	1079467.50	1088626.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\016SMPL.D\016SMPL.D#
 Date Acquired: Aug 26 2014 09:45 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62381-f-3-a
 Misc Info: 3005 1/5
 Vial Number: 2106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0001387	0.0001387	ug/l	895.46	100.00		3.33	0.00	0.00
11 B # 3	7.068	7.068	ug/l	3.13	1800.00		10289.61	10699.84	11023.40
23 Na # 1	29540	29540	ug/l	0.33	81000.00		83472456.00	83053016.00	83489112.00
24 Mg # 1	3404	3404	ug/l	0.19	81000.00		6732066.00	6725340.00	6730231.50
27 Al # 1	1.68	1.68	ug/l	2.86	81000.00		5310.89	5387.61	5157.50
39 K # 2	707.9	707.9	ug/l	0.24	81000.00		216869.38	216178.03	217211.64
40 Ca # 1	15960	15960	ug/l	0.13	81000.00		86762392.00	86609456.00	86640176.00
47 Ti # 3	0.1348	0.1348	ug/l	18.18	1620.00		200.01	216.67	250.01
51 V # 2	0.1708	0.1708	ug/l	4.56	1800.00		596.68	561.13	595.57
52 Cr # 2	0.0008889	0.0008889	ug/l	338.96	1800.00		275.56	290.01	285.56
55 Mn # 3	0.5665	0.5665	ug/l	3.70	1800.00		10563.27	10529.91	11340.41
56 Fe # 1	8.363	8.363	ug/l	0.53	81000.00		62716.13	62893.52	63087.70
59 Co # 3	0.01216	0.01216	ug/l	28.47	1800.00		263.34	183.34	200.01
60 Ni # 2	0.05247	0.05247	ug/l	27.77	1800.00		112.22	82.22	94.45
63 Cu # 2	0.141	0.141	ug/l	9.51	1800.00		763.36	798.91	731.13
66 Zn # 3	0.8839	0.8839	ug/l	9.52	1800.00		2206.86	2323.55	2046.84
75 As # 2	0.1275	0.1275	ug/l	2.41	100.00		51.67	50.00	50.00
78 Se # 1	-0.04505	-0.04505	ug/l	8.88	100.00		6.33	8.00	7.67
88 Sr # 3	103.7	103.7	ug/l	1.52	1800.00		2308264.80	2343996.80	2383517.50
95 Mo # 3	0.0323	0.0323	ug/l	34.33	1800.00		173.34	246.68	233.34
107 Ag # 3	-0.003281	-0.003281	ug/l	40.57	100.00		90.00	63.34	80.00
111 Cd # 3	-0.0006661	-0.0006661	ug/l	128.69	100.00		3.30	3.28	6.62
118 Sn # 3	-0.01391	-0.01391	ug/l	38.89	1800.00		503.35	536.69	590.03
121 Sb # 3	0.002027	0.002027	ug/l	50.27	100.00		60.00	43.33	53.34
137 Ba # 3	5.537	5.537	ug/l	1.25	1800.00		19458.33	19715.28	19965.44
202 Hg # 3	-0.02841	-0.02841	ug/l	3.02	5.00		28.33	33.33	30.00
205 Tl # 3	-0.004934	-0.004934	ug/l	5.21	20.00		60.00	50.00	60.00
208 Pb # 3	-0.01079	-0.01079	ug/l	15.13	1800.00		953.38	900.04	853.37
232 Th # 3	0.01031	0.01031	ug/l	18.75	#VALUE!		606.70	486.69	553.37
238 U # 3	0.01352	0.01352	ug/l	4.04	#VALUE!		483.36	450.02	476.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	361336.13	0.93	442436.88	81.7	60 - 125		358272.22	360785.50	364950.69
45 Sc # 1	366416.78	0.21	456299.72	80.3	60 - 125		367277.50	366192.75	365780.13
45 Sc # 3	643680.81	1.02	765061.25	84.1	60 - 125		636952.63	644021.38	650068.44
74 Ge # 1	127824.16	0.56	153441.28	83.3	60 - 125		127715.20	127170.46	128586.82
74 Ge # 2	39054.30	0.46	47804.94	81.7	60 - 125		39120.71	38849.00	39193.18
74 Ge # 3	195949.50	1.09	224564.78	87.3	60 - 125		194025.67	195581.36	198241.48
89 Y # 3	1164335.90	1.02	1302847.50	89.4	60 - 125		1166266.50	1151647.80	1175093.50
115 In # 3	1192591.00	1.76	1366177.60	87.3	60 - 125		1186041.90	1175660.90	1216070.30
159 Tb # 3	1734204.40	0.53	2052817.90	84.5	60 - 125		1726039.60	1744163.80	1732409.60
209 Bi # 3	1060543.90	0.47	1405468.50	75.5	60 - 125		1055829.30	1060094.60	1065707.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\017SMPL.D\017SMPL.D#
 Date Acquired: Aug 26 2014 09:52 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CK
 Misc Info:
 Vial Number: 4312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0001594	0.0001594	ug/l	801.76	100.00		0.00	0.00	3.33
11 B #3	0.5689	0.5689	ug/l	8.88	1800.00		2610.24	2493.57	2566.91
23 Na #1	-7.545	-7.545	ug/l	1.81	81000.00		54527.52	53915.91	54213.42
24 Mg #1	0.1892	0.1892	ug/l	20.76	81000.00		1266.74	1230.08	1113.39
27 Al #1	0.125	0.125	ug/l	17.10	81000.00		1546.77	1620.12	1520.11
39 K #2	-10	-10	ug/l	7.39	81000.00		8038.64	8178.65	7738.50
40 Ca #1	1.727	1.727	ug/l	0.28	81000.00		29233.13	29183.19	28912.51
47 Ti #3	-0.06232	-0.06232	ug/l	23.49	1620.00		20.00	33.33	46.67
51 V #2	-0.0133	-0.0133	ug/l	32.57	1800.00		168.89	155.56	168.89
52 Cr #2	-0.02992	-0.02992	ug/l	5.17	1800.00		192.23	202.23	191.11
55 Mn #3	0.007197	0.007197	ug/l	56.05	1800.00		1283.42	1413.43	1406.76
56 Fe #1	0.3566	0.3566	ug/l	2.16	81000.00		5874.42	5941.12	5797.76
59 Co #3	-0.002269	-0.002269	ug/l	45.26	1800.00		40.00	16.67	36.67
60 Ni #2	0.04192	0.04192	ug/l	25.19	1800.00		94.45	81.11	75.56
63 Cu #2	-0.0981	-0.0981	ug/l	3.16	1800.00		103.33	88.89	96.67
66 Zn #3	0.05884	0.05884	ug/l	55.98	1800.00		586.69	633.36	716.70
75 As #2	-0.01138	-0.01138	ug/l	52.71	100.00		9.33	7.33	10.67
78 Se #1	-0.05517	-0.05517	ug/l	7.04	100.00		6.00	4.67	4.33
88 Sr #3	0.004602	0.004602	ug/l	42.92	1800.00		190.01	246.68	276.68
95 Mo #3	-0.0138	-0.0138	ug/l	19.37	1800.00		43.33	56.67	63.34
107 Ag #3	-0.004538	-0.004538	ug/l	43.79	100.00		70.00	80.00	43.33
111 Cd #3	-0.002203	-0.002203	ug/l	40.80	100.00		-0.01	-0.01	3.32
118 Sn #3	-0.04715	-0.04715	ug/l	10.02	1800.00		310.01	286.68	353.35
121 Sb #3	-0.001401	-0.001401	ug/l	83.80	100.00		13.33	30.00	30.00
137 Ba #3	0.001346	0.001346	ug/l	28.48	1800.00		36.67	40.00	40.00
202 Hg #3	2.543	2.543	ug/l	0.28	5.00		7006.21	6967.86	6963.87
205 Tl #3	-0.005649	-0.005649	ug/l	5.34	20.00		36.67	46.67	33.33
208 Pb #3	-0.02524	-0.02524	ug/l	2.07	1800.00		416.68	423.35	446.68
232 Th #3	0.0007942	0.0007942	ug/l	62.86	#VALUE!		263.35	253.34	233.34
238 U #3	-0.0004145	-0.0004145	ug/l	47.99	#VALUE!		10.00	3.33	16.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	343891.31	1.09	442436.88	77.7	60 - 125		342109.16	341361.16	348203.59
45 Sc #1	349737.56	0.51	456299.72	76.6	60 - 125		351110.13	350391.56	347711.03
45 Sc #3	604516.94	0.97	765061.25	79.0	60 - 125		598273.94	605407.63	609869.25
74 Ge #1	125452.30	0.69	153441.28	81.8	60 - 125		126427.52	125178.92	124750.49
74 Ge #2	38242.97	1.29	47804.94	80.0	60 - 125		37769.02	38754.39	38205.52
74 Ge #3	189099.86	1.09	224564.78	84.2	60 - 125		187537.02	188332.13	191430.44
89 Y #3	1120024.40	0.93	1302847.50	86.0	60 - 125		1110053.90	1130790.80	1119228.40
115 In #3	1178841.90	1.66	1366177.60	86.3	60 - 125		1157550.30	1183004.00	1195971.40
159 Tb #3	1689751.10	0.13	2052817.90	82.3	60 - 125		1691004.80	1690938.50	1687310.10
209 Bi #3	1072299.90	0.30	1405468.50	76.3	60 - 125		1069268.50	1072042.80	1075588.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\018SMPL.D\018SMPL.D#
 Date Acquired: Aug 26 2014 10:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62381-f-4-a
 Misc Info: 3005 1/5
 Vial Number: 2107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001521	0.001521	ug/l	137.80	100.00		0.00	3.33	6.67
11 B #3	6.721	6.721	ug/l	2.83	1800.00		10012.79	10626.46	10396.33
23 Na #1	9229	9229	ug/l	4.30	81000.00		26691912.00	26569430.00	26714778.00
24 Mg #1	2625	2625	ug/l	4.37	81000.00		5314307.50	5283981.50	5309487.50
27 Al #1	3.17	3.17	ug/l	19.17	81000.00		7314.94	8761.26	10995.44
39 K #2	473.4	473.4	ug/l	0.43	81000.00		148007.89	148381.13	149683.55
40 Ca #1	12360	12360	ug/l	4.71	81000.00		68691736.00	68673816.00	68372776.00
47 Ti #3	0.2377	0.2377	ug/l	11.42	1620.00		316.68	296.68	346.68
51 V #2	0.1372	0.1372	ug/l	4.64	1800.00		491.12	516.68	517.79
52 Cr #2	-0.005382	-0.005382	ug/l	58.29	1800.00		270.00	256.67	273.34
55 Mn #3	0.327	0.327	ug/l	0.94	1800.00		6701.39	6838.11	6868.10
56 Fe #1	17.54	17.54	ug/l	5.22	81000.00		130813.79	131626.25	129769.38
59 Co #3	0.01107	0.01107	ug/l	1.08	1800.00		200.01	203.34	203.34
60 Ni #2	0.1057	0.1057	ug/l	10.29	1800.00		162.22	147.78	141.11
63 Cu #2	0.001175	0.001175	ug/l	831.66	1800.00		343.34	387.79	394.46
66 Zn #3	0.8916	0.8916	ug/l	1.27	1800.00		2190.19	2186.86	2260.20
75 As #2	5.366	5.366	ug/l	2.12	100.00		1569.74	1606.74	1643.41
78 Se #1	-0.05244	-0.05244	ug/l	15.02	100.00		5.00	7.67	4.67
88 Sr #3	69.89	69.89	ug/l	0.58	1800.00		1553012.90	1565878.10	1602616.40
95 Mo #3	4.188	4.188	ug/l	2.72	1800.00		14873.23	15493.80	14763.20
107 Ag #3	-0.006575	-0.006575	ug/l	28.82	100.00		66.67	33.33	36.67
111 Cd #3	0.0003802	0.0003802	ug/l	394.53	100.00		3.39	9.93	6.75
118 Sn #3	-0.02894	-0.02894	ug/l	10.28	1800.00		463.35	430.02	446.69
121 Sb #3	0.005118	0.005118	ug/l	18.35	100.00		83.34	80.00	70.00
137 Ba #3	4.928	4.928	ug/l	0.76	1800.00		17582.84	17879.84	17726.48
202 Hg #3	0.04619	0.04619	ug/l	9.14	5.00		235.34	254.67	229.00
205 Tl #3	-0.005195	-0.005195	ug/l	16.21	20.00		46.67	73.34	33.33
208 Pb #3	0.005322	0.005322	ug/l	39.89	1800.00		1436.75	1366.73	1486.75
232 Th #3	0.007864	0.007864	ug/l	4.89	#VALUE!		493.36	470.02	490.02
238 U #3	0.02245	0.02245	ug/l	14.98	#VALUE!		660.04	823.39	873.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	364897.16	0.97	442436.88	82.5	60 - 125		360921.72	366074.56	367695.19
45 Sc #1	374932.66	4.57	456299.72	82.2	60 - 125		364392.75	365708.94	394696.22
45 Sc #3	644739.31	0.76	765061.25	84.3	60 - 125		639450.94	649103.56	645663.44
74 Ge #1	130286.90	3.41	153441.28	84.9	60 - 125		127872.84	127566.37	135421.48
74 Ge #2	39072.13	0.20	47804.94	81.7	60 - 125		39010.52	39048.34	39157.52
74 Ge #3	196375.25	1.02	224564.78	87.4	60 - 125		194749.63	195776.02	198600.09
89 Y #3	1158874.00	1.09	1302847.50	88.9	60 - 125		1150327.60	1152918.10	1173376.00
115 In #3	1204754.60	1.01	1366177.60	88.2	60 - 125		1191273.40	1207974.60	1215016.30
159 Tb #3	1749821.30	1.01	2052817.90	85.2	60 - 125		1731522.60	1766660.00	1751281.40
209 Bi #3	1089906.50	0.35	1405468.50	77.5	60 - 125		1093693.50	1089953.50	1086072.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\019SMPL.D\019SMPL.D#
 Date Acquired: Aug 26 2014 10:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62381-f-5-a
 Misc Info: 3005 1/5
 Vial Number: 2108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0008263	0.0008263	ug/l	147.16	100.00		3.33	3.33	0.00
11 B #3	7.216	7.216	ug/l	1.49	1800.00		10996.66	11126.77	11076.74
23 Na #1	36360	36360	ug/l	0.84	81000.00		104835040.00	105291130.00	106090850.00
24 Mg #1	4194	4194	ug/l	0.81	81000.00		8491842.00	8503405.00	8572235.00
27 Al #1	1.26	1.26	ug/l	4.31	81000.00		4544.00	4443.99	4273.94
39 K #2	936.8	936.8	ug/l	1.73	81000.00		288148.84	295044.09	288353.41
40 Ca #1	17400	17400	ug/l	0.15	81000.00		96900920.00	97505848.00	96988864.00
47 Ti #3	0.1102	0.1102	ug/l	10.61	1620.00		193.34	196.67	216.67
51 V #2	0.1657	0.1657	ug/l	10.72	1800.00		616.68	540.01	605.57
52 Cr #2	0.004491	0.004491	ug/l	135.20	1800.00		287.78	320.01	295.56
55 Mn #3	0.2218	0.2218	ug/l	1.28	1800.00		5070.83	5037.48	5170.86
56 Fe #1	1.04	1.04	ug/l	3.94	81000.00		11633.98	11170.40	11106.94
59 Co #3	0.01611	0.01611	ug/l	24.77	1800.00		210.01	310.01	290.01
60 Ni #2	0.04091	0.04091	ug/l	21.59	1800.00		96.67	80.00	83.33
63 Cu #2	-0.03506	-0.03506	ug/l	17.95	1800.00		258.89	292.23	292.23
66 Zn #3	0.6245	0.6245	ug/l	3.90	1800.00		1696.79	1713.46	1806.81
75 As #2	0.1095	0.1095	ug/l	11.62	100.00		47.33	49.33	42.33
78 Se #1	-0.03785	-0.03785	ug/l	16.08	100.00		8.00	8.67	10.67
88 Sr #3	118.7	118.7	ug/l	0.39	1800.00		2667239.30	2700840.50	2753847.30
95 Mo #3	0.02671	0.02671	ug/l	14.49	1800.00		196.67	186.67	213.34
107 Ag #3	-0.005778	-0.005778	ug/l	11.12	100.00		46.67	60.00	53.34
111 Cd #3	-0.0001477	-0.0001477	ug/l	600.54	100.00		3.29	6.63	6.62
118 Sn #3	-0.02097	-0.02097	ug/l	11.49	1800.00		510.02	483.35	500.02
121 Sb #3	0.001176	0.001176	ug/l	132.14	100.00		36.67	40.00	60.00
137 Ba #3	5.257	5.257	ug/l	1.19	1800.00		18854.39	18643.97	18904.24
202 Hg #3	0.006657	0.006657	ug/l	99.90	5.00		121.33	114.67	150.00
205 Tl #3	-0.006032	-0.006032	ug/l	5.95	20.00		40.00	23.33	30.00
208 Pb #3	-0.01063	-0.01063	ug/l	8.05	1800.00		940.04	890.04	910.04
232 Th #3	0.006516	0.006516	ug/l	16.82	#VALUE!		463.35	406.69	406.68
238 U #3	0.0008774	0.0008774	ug/l	84.65	#VALUE!		43.33	33.33	80.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	368554.59	1.46	442436.88	83.3	60 - 125		363358.38	368199.88	374105.59
45 Sc #1	376672.00	0.39	456299.72	82.5	60 - 125		376213.97	378325.63	375476.44
45 Sc #3	654567.88	0.68	765061.25	85.6	60 - 125		650545.19	653812.94	659345.50
74 Ge #1	130403.57	0.12	153441.28	85.0	60 - 125		130245.19	130398.36	130567.16
74 Ge #2	40056.44	0.70	47804.94	83.8	60 - 125		39828.90	39969.22	40371.19
74 Ge #3	198789.23	0.85	224564.78	88.5	60 - 125		197106.80	198773.56	200487.36
89 Y #3	1173411.50	1.44	1302847.50	90.1	60 - 125		1155584.60	1175388.80	1189260.90
115 In #3	1197644.50	0.57	1366177.60	87.7	60 - 125		1190200.30	1203786.00	1198947.30
159 Tb #3	1745406.40	0.30	2052817.90	85.0	60 - 125		1739457.90	1747546.90	1749214.40
209 Bi #3	1053144.90	0.44	1405468.50	74.9	60 - 125		1048331.10	1053510.90	1057592.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\020SMPL.D\020SMPL.D#
 Date Acquired: Aug 26 2014 10:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-1-a
 Misc Info: 3005 1/5
 Vial Number: 2109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.005701	0.005701	ug/l	33.49	100.00		13.33	10.00	6.67
11 B #3	81.34	81.34	ug/l	9.10	1800.00		105064.24	101405.22	101351.43
23 Na #1	33900	33900	ug/l	4.68	81000.00		95934736.00	94938464.00	94979040.00
24 Mg #1	16050	16050	ug/l	5.37	81000.00		31712286.00	31772652.00	31373706.00
27 Al #1	91.84	91.84	ug/l	5.45	81000.00		216547.14	217201.27	214265.09
39 K #2	10810	10810	ug/l	1.47	81000.00		3301620.50	3262190.30	3243934.00
40 Ca #1	27590	27590	ug/l	5.13	81000.00		149170850.00	149910580.00	148888340.00
47 Ti #3	0.7344	0.7344	ug/l	20.58	1620.00		927.04	746.70	740.04
51 V #2	0.6133	0.6133	ug/l	4.09	1800.00		1593.42	1706.76	1628.97
52 Cr #2	0.9613	0.9613	ug/l	0.79	1800.00		2993.60	3004.71	3068.06
55 Mn #3	178.1	178.1	ug/l	9.30	1800.00		3051558.80	3009628.50	3006100.30
56 Fe #1	53490	53490	ug/l	5.57	81000.00		379154590.00	380197630.00	373815200.00
59 Co #3	1.029	1.029	ug/l	10.46	1800.00		13201.69	13188.40	13431.91
60 Ni #2	0.6084	0.6084	ug/l	7.35	1800.00		687.80	727.80	640.02
63 Cu #2	0.04638	0.04638	ug/l	14.43	1800.00		532.24	524.46	501.12
66 Zn #3	14.66	14.66	ug/l	10.35	1800.00		27818.25	27781.63	28158.82
75 As #2	6.868	6.868	ug/l	1.89	100.00		2131.80	2152.80	2096.13
78 Se #1	0.0226	0.0226	ug/l	36.90	100.00		21.67	20.67	25.33
88 Sr #3	117.6	117.6	ug/l	14.66	1800.00		2669239.30	2617596.30	2640839.50
95 Mo #3	0.1271	0.1271	ug/l	8.62	1800.00		530.02	590.03	510.02
107 Ag #3	-0.004241	-0.004241	ug/l	82.22	100.00		70.00	36.67	86.67
111 Cd #3	0.2286	0.2286	ug/l	9.11	100.00		506.57	496.56	449.91
118 Sn #3	0.03116	0.03116	ug/l	51.70	1800.00		796.71	856.71	826.71
121 Sb #3	0.02727	0.02727	ug/l	11.93	100.00		280.01	283.34	196.67
137 Ba #3	50.97	50.97	ug/l	13.50	1800.00		179279.89	175938.09	175859.73
202 Hg #3	0.009235	0.009235	ug/l	26.61	5.00		137.67	142.00	121.00
205 Tl #3	-0.0051	-0.0051	ug/l	9.36	20.00		40.00	63.34	53.33
208 Pb #3	1.522	1.522	ug/l	13.47	1800.00		50065.90	48223.48	48784.07
232 Th #3	0.01978	0.01978	ug/l	20.70	#VALUE!		790.05	813.38	846.72
238 U #3	0.002612	0.002612	ug/l	8.97	#VALUE!		113.34	113.34	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	365762.50	8.93	442436.88	82.7	60 - 125		368032.84	397230.47	332024.16
45 Sc #1	365676.19	4.72	456299.72	80.1	60 - 125		368326.72	347252.63	381449.28
45 Sc #3	664207.31	14.44	765061.25	86.8	60 - 125		658521.13	762809.75	571290.94
74 Ge #1	128933.02	2.56	153441.28	84.0	60 - 125		127249.08	126815.27	132734.70
74 Ge #2	40489.67	0.61	47804.94	84.7	60 - 125		40294.44	40404.60	40769.96
74 Ge #3	199103.75	9.35	224564.78	88.7	60 - 125		199485.94	217529.14	180296.19
89 Y #3	1172566.30	14.17	1302847.50	90.0	60 - 125		1173979.30	1338068.80	1005650.80
115 In #3	1179297.80	13.48	1366177.60	86.3	60 - 125		1182578.30	1336635.40	1018679.30
159 Tb #3	1722559.00	12.58	2052817.90	83.9	60 - 125		1727472.90	1936795.80	1503408.50
209 Bi #3	1033301.90	12.96	1405468.50	73.5	60 - 125		1019813.80	1173391.60	906700.06

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\021_CCV.D\021_CCV.D#
 Date Acquired: Aug 26 2014 10:22 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.88 ug/l	0.52	50.00	89.5 - 110		75658.88	76499.04	76559.24
11 B	96.11 ug/l	1.45	100.00	89.5 - 110		115818.28	116783.72	119526.35
23 Na	5268 ug/l	0.31	5000.00	89.5 - 110		14933596.00	14870233.00	14965113.00
24 Mg	5219 ug/l	1.07	5000.00	89.5 - 110		10410647.00	10204467.00	10334277.00
27 Al	538.5 ug/l	0.53	500.00	89.5 - 110		1264477.60	1254368.40	1275225.80
39 K	4904 ug/l	0.66	5000.00	89.5 - 110		1473405.40	1464214.10	1473603.10
40 Ca	5350 ug/l	0.41	5000.00	89.5 - 110		28873856.00	29006206.00	29331556.00
47 Ti	52.15 ug/l	0.41	50.00	89.5 - 110		48817.07	49111.31	49960.20
51 V	49.26 ug/l	1.00	50.00	89.5 - 110		114708.59	114186.52	113867.80
52 Cr	48.71 ug/l	0.67	50.00	89.5 - 110		135549.52	137746.39	137455.47
55 Mn	500.4 ug/l	0.40	500.00	89.5 - 110		8381510.50	8481605.00	8486128.00
56 Fe	5524 ug/l	0.22	5000.00	89.5 - 110	Fail	39021664.00	39003228.00	39444020.00
59 Co	49.97 ug/l	0.52	50.00	89.5 - 110		635231.69	637677.88	643825.19
60 Ni	50.42 ug/l	0.62	50.00	89.5 - 110		52198.57	52732.26	52535.21
63 Cu	49.15 ug/l	0.17	50.00	89.5 - 110		139998.06	140475.39	141322.95
66 Zn	48.94 ug/l	0.77	50.00	89.5 - 110		91221.91	91537.12	91701.20
75 As	50.69 ug/l	0.44	50.00	89.5 - 110		15315.41	15475.21	15479.55
78 Se	50.39 ug/l	0.32	50.00	89.5 - 110		11453.61	11502.30	11472.95
88 Sr	48.95 ug/l	0.57	50.00	89.5 - 110		1087812.60	1105649.00	1112552.80
95 Mo	50.09 ug/l	0.22	50.00	89.5 - 110		177791.42	178572.75	179979.77
107 Ag	48.43 ug/l	0.64	50.00	89.5 - 110		479193.16	485610.09	484635.72
111 Cd	48.66 ug/l	0.28	50.00	89.5 - 110		104622.99	104344.15	105668.95
118 Sn	48.93 ug/l	0.16	50.00	89.5 - 110		330363.97	331555.84	333965.53
121 Sb	48.38 ug/l	0.39	50.00	89.5 - 110		393307.28	390686.19	394639.56
137 Ba	49.12 ug/l	0.57	50.00	89.5 - 110		174725.64	176640.67	177878.25
202 Hg	2.553 ug/l	0.58	2.50	89.5 - 110		7151.96	7114.94	7130.27
205 Tl	9.532 ug/l	0.44	10.00	89.5 - 110		222767.28	221236.72	222378.52
208 Pb	47.84 ug/l	0.50	50.00	89.5 - 110		1518475.90	1516312.60	1520397.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	353324.31	0.22	442436.88	79.9	60 - 125		352697.03	353102.75	354173.16
45 Sc	366360.81	0.42	456299.72	80.3	60 - 125		365340.63	365605.53	368136.31
45 Sc	641280.19	1.03	765061.25	83.8	60 - 125		638024.19	636967.69	648848.69
74 Ge	131122.64	0.37	153441.28	85.5	60 - 125		130609.86	131185.98	131572.09
74 Ge	39990.02	0.64	47804.94	83.7	60 - 125		39773.23	39924.72	40272.11
74 Ge	197022.17	1.03	224564.78	87.7	60 - 125		194781.58	197527.73	198757.19
89 Y	1158724.90	1.36	1302847.50	88.9	60 - 125		1144882.10	1155407.00	1175885.60
115 In	1204669.60	0.44	1366177.60	88.2	60 - 125		1201052.60	1202194.90	1210761.30
159 Tb	1720197.80	0.63	2052817.90	83.8	60 - 125		1720440.40	1709165.60	1730987.50
209 Bi	1066752.10	0.51	1405468.50	75.9	60 - 125		1060664.30	1068521.90	1071070.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\022_CCB.D\022_CCB.D#
 Date Acquired: Aug 26 2014 10:29 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003121	0.003121	ug/l	41.21	#VALUE!		6.67	6.67	3.33
11 B #3	1.8	1.8	ug/l	4.14	#VALUE!		4130.53	3993.84	3983.85
23 Na #1	-8.908	-8.908	ug/l	1.86	#VALUE!		50911.64	51816.97	51612.86
24 Mg #1	0.3623	0.3623	ug/l	3.16	#VALUE!		1573.44	1530.11	1566.77
27 Al #1	0.07244	0.07244	ug/l	16.17	#VALUE!		1486.80	1476.76	1446.76
39 K #2	-11.45	-11.45	ug/l	6.35	#VALUE!		7628.40	7848.49	7548.35
40 Ca #1	0.9822	0.9822	ug/l	12.06	#VALUE!		24950.21	26178.54	25954.98
47 Ti #3	-0.06671	-0.06671	ug/l	9.04	#VALUE!		26.67	26.67	36.67
51 V #2	-0.0142	-0.0142	ug/l	37.04	#VALUE!		171.11	150.00	173.34
52 Cr #2	-0.01942	-0.01942	ug/l	38.55	#VALUE!		217.78	247.78	213.34
55 Mn #3	0.03635	0.03635	ug/l	14.78	#VALUE!		1756.80	1950.16	1886.82
56 Fe #1	1.729	1.729	ug/l	1.15	#VALUE!		15533.55	15266.62	15480.15
59 Co #3	0.0009173	0.0009173	ug/l	23.29	#VALUE!		73.34	70.00	70.00
60 Ni #2	-0.009979	-0.009979	ug/l	25.64	#VALUE!		32.22	30.00	35.56
63 Cu #2	-0.07225	-0.07225	ug/l	11.11	#VALUE!		170.00	145.56	192.23
66 Zn #3	-0.1177	-0.1177	ug/l	32.61	#VALUE!		393.35	260.01	350.01
75 As #2	0.009988	0.009988	ug/l	81.82	#VALUE!		17.00	12.67	17.00
78 Se #1	-0.04234	-0.04234	ug/l	22.59	#VALUE!		6.33	7.00	10.33
88 Sr #3	0.002663	0.002663	ug/l	38.90	#VALUE!		190.01	180.01	226.67
95 Mo #3	0.0365	0.0365	ug/l	7.26	#VALUE!		230.01	240.01	223.34
107 Ag #3	0.0007375	0.0007375	ug/l	280.54	#VALUE!		106.67	140.00	103.34
111 Cd #3	-0.0006492	-0.0006492	ug/l	136.86	#VALUE!		3.28	3.28	6.62
118 Sn #3	0.0105	0.0105	ug/l	106.48	#VALUE!		740.04	616.70	750.04
121 Sb #3	0.02169	0.02169	ug/l	8.88	#VALUE!		200.01	226.68	200.01
137 Ba #3	0.001315	0.001315	ug/l	358.33	#VALUE!		46.67	50.00	20.00
202 Hg #3	0.005874	0.005874	ug/l	67.59	#VALUE!		124.00	113.67	134.34
205 Tl #3	-0.003832	-0.003832	ug/l	44.89	#VALUE!		120.00	80.00	43.33
208 Pb #3	-0.0212	-0.0212	ug/l	2.12	#VALUE!		556.69	580.02	550.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	347353.75	0.19	442436.88	78.5	60 - 125		346807.50	347153.66	348100.13
45 Sc #1	355922.75	0.41	456299.72	78.0	60 - 125		355044.81	355116.75	357606.75
45 Sc #3	617375.13	0.91	765061.25	80.7	60 - 125		613093.56	615294.31	623737.50
74 Ge #1	126990.04	0.41	153441.28	82.8	60 - 125		126714.96	126659.89	127595.26
74 Ge #2	38766.65	0.70	47804.94	81.1	60 - 125		38830.10	38469.40	39000.43
74 Ge #3	191589.00	1.17	224564.78	85.3	60 - 125		189487.50	191335.80	193943.72
89 Y #3	1139248.50	1.32	1302847.50	87.4	60 - 125		1122806.80	1142742.10	1152196.80
115 In #3	1185065.40	0.93	1366177.60	86.7	60 - 125		1173707.00	1185810.10	1195679.10
159 Tb #3	1712093.90	1.87	2052817.90	83.4	60 - 125		1675798.10	1735931.50	1724551.90
209 Bi #3	1072322.50	1.25	1405468.50	76.3	60 - 125		1060569.00	1069536.10	1086862.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\023_CCV.D\023_CCV.D#
 Date Acquired: Aug 26 2014 10:37 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	50.22 ug/l	0.95	50.00	89.5 - 110		74551.40	74902.97	74688.61
11 B	96.27 ug/l	1.20	100.00	89.5 - 110		113401.04	114181.78	115761.05
23 Na	5234 ug/l	0.28	5000.00	89.5 - 110		14364515.00	14497835.00	14432745.00
24 Mg	5207 ug/l	0.50	5000.00	89.5 - 110		9955479.00	10093475.00	10001903.00
27 Al	535.8 ug/l	0.65	500.00	89.5 - 110		1215060.90	1235692.60	1223592.80
39 K	4958 ug/l	0.54	5000.00	89.5 - 110		1452542.00	1457159.00	1465368.90
40 Ca	5331 ug/l	0.39	5000.00	89.5 - 110		28049620.00	28246246.00	28293302.00
47 Ti	52.33 ug/l	1.07	50.00	89.5 - 110		47610.82	48372.75	48132.15
51 V	48.84 ug/l	0.50	50.00	89.5 - 110		110733.71	111194.41	111507.41
52 Cr	48.48 ug/l	0.25	50.00	89.5 - 110		132680.38	134531.31	133953.84
55 Mn	502.4 ug/l	0.64	500.00	89.5 - 110		8173472.50	8268683.00	8299820.00
56 Fe	5514 ug/l	0.24	5000.00	89.5 - 110		37907796.00	38232560.00	37986140.00
59 Co	49.92 ug/l	0.51	50.00	89.5 - 110		617512.94	622090.63	621961.88
60 Ni	49.88 ug/l	0.94	50.00	89.5 - 110		50888.43	50657.72	51307.24
63 Cu	48.71 ug/l	0.39	50.00	89.5 - 110		135898.45	136758.97	137449.67
66 Zn	49.03 ug/l	1.57	50.00	89.5 - 110		87826.35	90384.63	89132.54
75 As	50.74 ug/l	0.13	50.00	89.5 - 110		15019.16	15191.31	15222.33
78 Se	51.24 ug/l	0.22	50.00	89.5 - 110		11245.47	11306.18	11267.82
88 Sr	49.28 ug/l	1.02	50.00	89.5 - 110		1081640.00	1092391.60	1094900.80
95 Mo	50.2 ug/l	0.25	50.00	89.5 - 110		174344.11	175566.19	175498.98
107 Ag	48.62 ug/l	0.23	50.00	89.5 - 110		474262.13	473519.47	474517.69
111 Cd	48.95 ug/l	0.56	50.00	89.5 - 110		102866.41	103875.57	102635.19
118 Sn	49.75 ug/l	0.36	50.00	89.5 - 110		330719.81	329957.28	329061.25
121 Sb	48.98 ug/l	0.15	50.00	89.5 - 110		387471.78	389565.31	389239.56
137 Ba	49.65 ug/l	0.78	50.00	89.5 - 110		172478.98	175048.17	175361.38
202 Hg	2.564 ug/l	1.63	2.50	89.5 - 110		7130.62	7084.25	7127.27
205 Tl	9.534 ug/l	0.82	10.00	89.5 - 110		218315.17	221522.23	222290.72
208 Pb	47.77 ug/l	1.09	50.00	89.5 - 110		1500370.00	1507015.80	1511309.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	343969.44	1.17	442436.88	77.7	60 - 125		339700.31	347713.66	344494.44
45 Sc	356600.38	0.20	456299.72	78.2	60 - 125		356028.28	357411.97	356360.88
45 Sc	622697.75	0.79	765061.25	81.4	60 - 125		620335.63	619396.38	628361.25
74 Ge	126672.70	0.13	153441.28	82.6	60 - 125		126670.05	126838.05	126509.99
74 Ge	39235.08	0.80	47804.94	82.1	60 - 125		38872.49	39416.94	39415.81
74 Ge	191530.25	0.47	224564.78	85.3	60 - 125		191120.47	190898.61	192571.72
89 Y	1138112.80	0.82	1302847.50	87.4	60 - 125		1139444.60	1128212.90	1146680.60
115 In	1177523.10	0.15	1366177.60	86.2	60 - 125		1175615.40	1179004.40	1177949.60
159 Tb	1708823.30	1.27	2052817.90	83.2	60 - 125		1687053.50	1730551.50	1708864.90
209 Bi	1074006.60	2.97	1405468.50	76.4	60 - 125		1051496.60	1110510.80	1060012.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\024_CCB.D\024_CCB.D#
 Date Acquired: Aug 26 2014 10:44 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00464	0.00464	ug/l	26.92	#VALUE!		6.67	6.67	10.00
11 B #3	1.841	1.841	ug/l	9.87	#VALUE!		4243.90	3907.16	3987.17
23 Na #1	-9.283	-9.283	ug/l	1.82	#VALUE!		48611.97	49387.13	49911.80
24 Mg #1	0.3953	0.3953	ug/l	17.48	#VALUE!		1430.10	1686.79	1636.78
27 Al #1	0.1174	0.1174	ug/l	65.84	#VALUE!		1426.76	1740.14	1446.76
39 K #2	-10.72	-10.72	ug/l	3.06	#VALUE!		7741.77	7835.15	7941.89
40 Ca #1	0.9852	0.9852	ug/l	0.35	#VALUE!		25027.07	25197.36	25193.91
47 Ti #3	-0.07387	-0.07387	ug/l	12.89	#VALUE!		20.00	16.67	33.33
51 V #2	-0.02051	-0.02051	ug/l	24.30	#VALUE!		156.67	154.45	137.78
52 Cr #2	-0.01802	-0.01802	ug/l	24.33	#VALUE!		218.89	245.56	222.23
55 Mn #3	0.03436	0.03436	ug/l	10.13	#VALUE!		1820.14	1770.13	1906.83
56 Fe #1	1.623	1.623	ug/l	1.00	#VALUE!		14222.58	14526.00	14362.60
59 Co #3	0.001716	0.001716	ug/l	79.55	#VALUE!		66.67	100.00	76.67
60 Ni #2	-0.008263	-0.008263	ug/l	46.90	#VALUE!		35.56	30.00	36.67
63 Cu #2	-0.07923	-0.07923	ug/l	12.13	#VALUE!		142.22	126.67	177.78
66 Zn #3	-0.1075	-0.1075	ug/l	28.86	#VALUE!		343.35	300.01	416.69
75 As #2	0.0009257	0.0009257	ug/l	700.98	#VALUE!		14.67	11.33	12.33
78 Se #1	-0.04358	-0.04358	ug/l	17.23	#VALUE!		8.67	8.00	5.67
88 Sr #3	0.003861	0.003861	ug/l	57.21	#VALUE!		166.67	250.01	260.01
95 Mo #3	0.03438	0.03438	ug/l	10.63	#VALUE!		220.01	236.68	213.34
107 Ag #3	-0.00117	-0.00117	ug/l	194.87	#VALUE!		83.34	123.34	86.67
111 Cd #3	0.002517	0.002517	ug/l	73.26	#VALUE!		13.29	13.28	6.62
118 Sn #3	0.01787	0.01787	ug/l	35.17	#VALUE!		790.04	743.37	716.71
121 Sb #3	0.02258	0.02258	ug/l	15.73	#VALUE!		240.01	220.01	186.67
137 Ba #3	0.004781	0.004781	ug/l	24.68	#VALUE!		53.33	53.34	46.67
202 Hg #3	0.007556	0.007556	ug/l	24.18	#VALUE!		126.67	134.00	124.00
205 Tl #3	-0.002349	-0.002349	ug/l	33.83	#VALUE!		100.00	136.67	110.00
208 Pb #3	-0.02001	-0.02001	ug/l	9.03	#VALUE!		600.03	540.02	653.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	344204.81	0.99	442436.88	77.8	60 - 125		340446.81	345045.28	347122.38
45 Sc #1	348019.69	0.44	456299.72	76.3	60 - 125		346264.44	348745.22	349049.28
45 Sc #3	612833.69	1.39	765061.25	80.1	60 - 125		603235.75	615669.19	619596.25
74 Ge #1	124343.63	0.73	153441.28	81.0	60 - 125		123333.11	124606.24	125091.54
74 Ge #2	38529.50	1.42	47804.94	80.6	60 - 125		37939.33	39018.33	38630.86
74 Ge #3	191642.77	1.13	224564.78	85.3	60 - 125		189561.73	191498.25	193868.33
89 Y #3	1138630.30	1.32	1302847.50	87.4	60 - 125		1123732.90	1138390.30	1153767.90
115 In #3	1183185.40	0.67	1366177.60	86.6	60 - 125		1176571.90	1181047.50	1191936.90
159 Tb #3	1706283.60	0.73	2052817.90	83.1	60 - 125		1691976.30	1713593.10	1713281.40
209 Bi #3	1085205.80	1.17	1405468.50	77.2	60 - 125		1072355.30	1085573.40	1097688.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\025SMPL.D\025SMPL.D#
 Date Acquired: Aug 26 2014 10:52 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-2-a
 Misc Info: 3005 1/5
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.009281	0.009281	ug/l	35.43	100.00		20.00	10.00	16.67
11 B #3	83.83	83.83	ug/l	0.66	1800.00		105884.80	106096.14	106304.22
23 Na #1	31340	31340	ug/l	0.85	81000.00		90161200.00	89761584.00	89771360.00
24 Mg #1	14800	14800	ug/l	0.77	81000.00		29793720.00	29707466.00	29726320.00
27 Al #1	123.2	123.2	ug/l	0.80	81000.00		295869.56	294883.69	294923.06
39 K #2	10870	10870	ug/l	0.18	81000.00		3257835.30	3257394.00	3260966.30
40 Ca #1	25710	25710	ug/l	0.49	81000.00		141826260.00	142973280.00	141194030.00
47 Ti #3	0.9203	0.9203	ug/l	5.42	1620.00		1030.06	933.39	993.39
51 V #2	0.693	0.693	ug/l	2.40	1800.00		1820.11	1773.44	1849.00
52 Cr #2	0.9971	0.9971	ug/l	2.07	1800.00		3135.85	3128.07	3025.82
55 Mn #3	183.9	183.9	ug/l	0.01	1800.00		3124200.30	3147299.00	3170173.30
56 Fe #1	49650	49650	ug/l	0.58	81000.00		358192480.00	359186400.00	356434180.00
59 Co #3	1.144	1.144	ug/l	1.76	1800.00		15006.46	14599.44	15046.56
60 Ni #2	0.6317	0.6317	ug/l	4.41	1800.00		731.13	672.24	707.80
63 Cu #2	0.2803	0.2803	ug/l	3.33	1800.00		1166.72	1214.50	1172.27
66 Zn #3	15.36	15.36	ug/l	1.77	1800.00		29838.15	29377.25	29263.89
75 As #2	7.007	7.007	ug/l	0.41	100.00		2163.47	2149.80	2140.13
78 Se #1	0.01068	0.01068	ug/l	92.76	100.00		20.67	22.00	17.67
88 Sr #3	121.4	121.4	ug/l	0.61	1800.00		2769038.30	2773168.30	2781486.80
95 Mo #3	0.1745	0.1745	ug/l	5.50	1800.00		680.04	746.70	723.37
107 Ag #3	-0.004146	-0.004146	ug/l	8.81	100.00		66.67	66.67	73.34
111 Cd #3	0.2541	0.2541	ug/l	10.10	100.00		519.87	606.53	509.86
118 Sn #3	0.07507	0.07507	ug/l	10.29	1800.00		1080.07	1133.40	1190.07
121 Sb #3	0.03982	0.03982	ug/l	8.55	100.00		326.68	353.35	383.35
137 Ba #3	54.57	54.57	ug/l	0.56	1800.00		193677.67	192985.94	192741.69
202 Hg #3	-0.00447	-0.00447	ug/l	8.72	5.00		96.33	97.34	95.67
205 Tl #3	-0.00497	-0.00497	ug/l	4.50	20.00		50.00	56.67	60.00
208 Pb #3	3.549	3.549	ug/l	1.51	1800.00		113365.77	115650.69	113276.53
232 Th #3	0.04921	0.04921	ug/l	8.72	#VALUE!		1863.50	1600.14	1746.83
238 U #3	0.006676	0.006676	ug/l	22.65	#VALUE!		183.34	253.34	276.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	365278.31	0.80	442436.88	82.6	60 - 125		361904.41	367163.03	366767.41
45 Sc #1	372646.94	0.63	456299.72	81.7	60 - 125		370427.81	375077.22	372435.78
45 Sc #3	656712.25	0.70	765061.25	85.8	60 - 125		654302.50	653849.25	661984.88
74 Ge #1	130579.26	0.53	153441.28	85.1	60 - 125		129778.78	130948.92	131010.06
74 Ge #2	40139.23	0.14	47804.94	84.0	60 - 125		40200.84	40125.11	40091.75
74 Ge #3	199618.89	0.72	224564.78	88.9	60 - 125		198184.14	199596.44	201076.11
89 Y #3	1176782.80	0.47	1302847.50	90.3	60 - 125		1182813.40	1171949.00	1175585.60
115 In #3	1187169.00	0.37	1366177.60	86.9	60 - 125		1185016.50	1184320.40	1192170.30
159 Tb #3	1725033.00	0.36	2052817.90	84.0	60 - 125		1731295.40	1718999.10	1724804.50
209 Bi #3	1033597.60	0.09	1405468.50	73.5	60 - 125		1033698.80	1034461.40	1032632.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\026SMPL.D\026SMPL.D#
 Date Acquired: Aug 26 2014 10:59 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-3-a
 Misc Info: 3005 1/5
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.007532	0.007532	ug/l	52.71	100.00		13.33	6.67	20.00
11 B # 3	26.86	26.86	ug/l	1.60	1800.00		36751.77	36554.85	36755.16
23 Na # 1	26460	26460	ug/l	0.12	81000.00		77382656.00	77239680.00	77484376.00
24 Mg # 1	4773	4773	ug/l	0.69	81000.00		9718598.00	9808681.00	9814098.00
27 Al # 1	26.86	26.86	ug/l	3.41	81000.00		66038.57	69014.96	65076.64
39 K # 2	4260	4260	ug/l	0.82	81000.00		1289402.50	1296315.90	1317157.90
40 Ca # 1	27770	27770	ug/l	0.43	81000.00		156274670.00	155329230.00	157364080.00
47 Ti # 3	0.6674	0.6674	ug/l	9.48	1620.00		793.37	696.72	830.07
51 V # 2	0.1467	0.1467	ug/l	11.11	1800.00		535.57	596.68	523.35
52 Cr # 2	0.03131	0.03131	ug/l	31.71	1800.00		347.78	412.23	387.79
55 Mn # 3	129.1	129.1	ug/l	1.44	1800.00		2274090.50	2260330.30	2285569.30
56 Fe # 1	2193	2193	ug/l	0.29	81000.00		16094991.00	16119278.00	16145921.00
59 Co # 3	0.421	0.421	ug/l	0.81	1800.00		5617.69	5621.00	5791.06
60 Ni # 2	0.4812	0.4812	ug/l	7.28	1800.00		583.35	553.35	524.46
63 Cu # 2	0.02211	0.02211	ug/l	62.46	1800.00		482.23	412.23	458.90
66 Zn # 3	2.556	2.556	ug/l	3.30	1800.00		5267.56	5651.04	5704.38
75 As # 2	2.768	2.768	ug/l	0.63	100.00		861.69	870.69	875.69
78 Se # 1	-0.03507	-0.03507	ug/l	15.15	100.00		11.00	10.00	8.67
88 Sr # 3	192.4	192.4	ug/l	0.90	1800.00		4466299.00	4536561.50	4572732.50
95 Mo # 3	0.4234	0.4234	ug/l	4.74	1800.00		1563.45	1686.80	1690.13
107 Ag # 3	-0.0002135	-0.0002135	ug/l	564.40	100.00		120.00	113.34	100.00
111 Cd # 3	0.003158	0.003158	ug/l	81.10	100.00		16.32	6.30	16.30
118 Sn # 3	0.01968	0.01968	ug/l	42.81	1800.00		743.37	753.37	880.05
121 Sb # 3	0.0147	0.0147	ug/l	12.10	100.00		146.67	150.01	180.01
137 Ba # 3	33.43	33.43	ug/l	2.44	1800.00		122760.63	122300.00	122173.09
202 Hg # 3	-0.01427	-0.01427	ug/l	45.80	5.00		49.67	79.34	85.34
205 Tl # 3	-0.000588	-0.000588	ug/l	262.76	20.00		186.67	120.00	180.01
208 Pb # 3	0.07298	0.07298	ug/l	6.11	1800.00		3713.63	3743.63	3523.60
232 Th # 3	0.03079	0.03079	ug/l	6.26	#VALUE!		1280.10	1160.08	1206.76
238 U # 3	0.1561	0.1561	ug/l	2.91	#VALUE!		5247.74	5357.77	5154.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	379025.34	1.51	442436.88	85.7	60 - 125		373651.44	378406.34	385018.28
45 Sc # 1	379802.53	0.26	456299.72	83.2	60 - 125		380262.69	378666.38	380478.53
45 Sc # 3	684992.88	1.58	765061.25	89.5	60 - 125		675986.81	681952.63	697039.19
74 Ge # 1	132470.83	0.69	153441.28	86.3	60 - 125		131445.92	133185.89	132780.66
74 Ge # 2	40684.51	1.41	47804.94	85.1	60 - 125		40036.02	40902.39	41115.14
74 Ge # 3	205441.00	1.62	224564.78	91.5	60 - 125		202178.83	205306.27	208837.89
89 Y # 3	1210704.00	0.94	1302847.50	92.9	60 - 125		1205591.10	1202833.60	1223687.10
115 In # 3	1228521.40	2.35	1366177.60	89.9	60 - 125		1220179.60	1204778.90	1260605.80
159 Tb # 3	1772942.50	0.94	2052817.90	86.4	60 - 125		1755474.10	1774844.80	1788508.10
209 Bi # 3	1076050.90	1.03	1405468.50	76.6	60 - 125		1071167.10	1068217.40	1088768.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\027SMPL.D\027SMPL.D#
 Date Acquired: Aug 26 2014 11:06 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-3-a SD
 Misc Info: 3005 1/25
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.014985	0.002997	ug/l	82.65	100.00		3.33	10.00	3.33
11 B #3	30.245	6.049	ug/l	1.33	1800.00		9369.13	9252.40	9462.48
23 Na #1	26555	5311	ug/l	0.07	81000.00		15060613.00	15080430.00	15126983.00
24 Mg #1	4897.5	979.5	ug/l	0.74	81000.00		1951285.40	1924375.40	1951773.80
27 Al #1	30.13	6.026	ug/l	2.26	81000.00		15216.53	15459.96	15900.88
39 K #2	4156.5	831.3	ug/l	0.38	81000.00		258286.69	257234.61	258715.55
40 Ca #1	27920	5584	ug/l	0.17	81000.00		30450770.00	30350446.00	30491550.00
47 Ti #3	0.4049	0.08098	ug/l	37.33	1620.00		193.34	140.00	176.68
51 V #2	0.1199	0.02398	ug/l	6.18	1800.00		261.12	253.34	258.89
52 Cr #2	-0.0734	-0.01468	ug/l	25.88	1800.00		237.78	241.12	260.00
55 Mn #3	123.9	24.78	ug/l	0.77	1800.00		417012.06	423686.13	427037.53
56 Fe #1	2280	456	ug/l	0.77	81000.00		3260524.00	3213566.50	3260579.00
59 Co #3	0.4056	0.08112	ug/l	4.52	1800.00		1150.07	1070.06	1096.73
60 Ni #2	0.613	0.1226	ug/l	6.78	1800.00		161.11	176.67	175.56
63 Cu #2	-0.3782	-0.07564	ug/l	6.17	1800.00		150.00	175.56	167.78
66 Zn #3	0.734	0.1468	ug/l	10.06	1800.00		846.71	813.38	863.38
75 As #2	2.792	0.5584	ug/l	3.34	100.00		176.00	182.33	188.67
78 Se #1	-0.22175	-0.04435	ug/l	23.29	100.00		6.67	6.00	10.33
88 Sr #3	193.45	38.69	ug/l	1.99	1800.00		861967.88	900429.56	865160.81
95 Mo #3	0.3436	0.06872	ug/l	12.81	1800.00		323.35	390.02	343.35
107 Ag #3	-0.019275	-0.003855	ug/l	41.63	100.00		56.67	90.00	73.34
111 Cd #3	0.0016725	0.0003345	ug/l	806.58	100.00		13.26	3.25	3.26
118 Sn #3	-0.18185	-0.03637	ug/l	5.73	1800.00		406.68	406.68	383.35
121 Sb #3	0.022595	0.004519	ug/l	40.98	100.00		90.00	63.34	66.67
137 Ba #3	33.46	6.692	ug/l	1.08	1800.00		24151.05	24545.06	23934.04
202 Hg #3	-0.0672	-0.01344	ug/l	49.81	5.00		62.33	93.67	61.67
205 Tl #3	-0.026165	-0.005233	ug/l	12.53	20.00		53.34	63.34	33.33
208 Pb #3	-0.048465	-0.009693	ug/l	12.33	1800.00		906.71	976.71	950.04
232 Th #3	0.043965	0.008793	ug/l	7.34	#VALUE!		526.70	543.36	523.36
238 U #3	0.14495	0.02899	ug/l	3.27	#VALUE!		1040.07	1053.40	1026.74

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	359172.91	0.75	442436.88	81.2	60 - 125		356464.72	359215.97	361838.00
45 Sc #1	367442.09	0.18	456299.72	80.5	60 - 125		367049.75	367076.50	368200.06
45 Sc #3	639954.00	1.06	765061.25	83.6	60 - 125		632268.25	642454.38	645139.38
74 Ge #1	130893.26	0.19	153441.28	85.3	60 - 125		131173.89	130827.93	130677.95
74 Ge #2	39898.34	0.61	47804.94	83.5	60 - 125		39845.67	39685.29	40164.06
74 Ge #3	198328.86	0.58	224564.78	88.3	60 - 125		197025.88	199213.58	198747.11
89 Y #3	1165075.10	0.86	1302847.50	89.4	60 - 125		1153523.40	1171787.80	1169914.10
115 In #3	1212072.00	0.78	1366177.60	88.7	60 - 125		1202087.40	1220767.10	1213361.50
159 Tb #3	1747263.30	0.52	2052817.90	85.1	60 - 125		1749683.30	1737134.00	1754972.30
209 Bi #3	1125323.50	2.10	1405468.50	80.1	60 - 125		1144245.80	1098795.00	1132929.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\028SMPL.D\028SMPL.D#
 Date Acquired: Aug 26 2014 11:14 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-3-a PDS
 Misc Info: 3005 1/5
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.13	20.13	ug/l	3.13	100.00		31903.11	32510.65	32868.17
11 B #3	65	65	ug/l	2.72	1800.00		82356.29	85643.71	85034.94
23 Na #1	28330	28330	ug/l	2.83	81000.00		83468360.00	83987920.00	83836240.00
24 Mg #1	6693	6693	ug/l	3.40	81000.00		13908775.00	13831421.00	13859710.00
27 Al #1	230.1	230.1	ug/l	3.44	81000.00		569098.94	564133.19	568644.50
39 K #2	6168	6168	ug/l	1.41	81000.00		1893911.30	1898691.60	1899498.90
40 Ca #1	29790	29790	ug/l	2.78	81000.00		168792030.00	168891710.00	171148350.00
47 Ti #3	21.38	21.38	ug/l	5.97	1620.00		21396.02	21466.19	20945.44
51 V #2	19.42	19.42	ug/l	1.01	1800.00		46243.48	46335.95	46709.06
52 Cr #2	18.86	18.86	ug/l	0.84	1800.00		54185.93	54548.01	55234.37
55 Mn #3	328.1	328.1	ug/l	3.76	1800.00		5656184.00	5690788.00	5774307.50
56 Fe #1	4271	4271	ug/l	3.44	81000.00		31838516.00	31613426.00	31739186.00
59 Co #3	19.91	19.91	ug/l	3.24	1800.00		258365.78	262374.06	265977.59
60 Ni #2	19.74	19.74	ug/l	1.56	1800.00		20899.62	21280.06	21268.90
63 Cu #2	18.71	18.71	ug/l	1.76	1800.00		55297.84	55382.59	55077.28
66 Zn #3	19.86	19.86	ug/l	2.13	1800.00		37495.57	38778.32	39539.78
75 As #2	22.45	22.45	ug/l	1.49	100.00		6959.00	7064.37	7060.71
78 Se #1	19.32	19.32	ug/l	1.01	100.00		4488.23	4555.91	4500.23
88 Sr #3	216	216	ug/l	3.69	1800.00		4982218.50	5001183.00	5057748.50
95 Mo #3	20.92	20.92	ug/l	4.69	1800.00		74509.38	75028.14	74683.50
107 Ag #3	18.85	18.85	ug/l	4.47	100.00		187386.81	188089.31	189049.86
111 Cd #3	19.12	19.12	ug/l	3.93	100.00		40802.03	41369.70	41543.76
118 Sn #3	19.62	19.62	ug/l	3.62	1800.00		131592.63	134450.03	134675.03
121 Sb #3	19.4	19.4	ug/l	4.61	100.00		157345.28	156524.52	159008.16
137 Ba #3	53.75	53.75	ug/l	4.91	1800.00		193147.52	192699.08	193272.19
202 Hg #3	0.9118	0.9118	ug/l	5.95	5.00		2662.90	2645.56	2618.22
205 Tl #3	3.613	3.613	ug/l	3.85	20.00		84170.53	84879.90	86408.56
208 Pb #3	18.31	18.31	ug/l	4.81	1800.00		586828.19	587685.94	588316.00
232 Th #3	21.48	21.48	ug/l	3.07	#VALUE!		665737.19	668138.88	666017.31
238 U #3	20.38	20.38	ug/l	2.96	#VALUE!		656845.63	660284.94	658502.19

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	372768.50	4.50	442436.88	84.3	60 - 125		353633.53	379856.31	384815.66
45 Sc #1	384274.22	3.08	456299.72	84.2	60 - 125		370620.03	390975.66	391227.00
45 Sc #3	674280.63	5.03	765061.25	88.1	60 - 125		635517.31	688967.06	698357.50
74 Ge #1	134180.58	1.30	153441.28	87.4	60 - 125		132165.63	135194.72	135181.36
74 Ge #2	41099.53	1.47	47804.94	86.0	60 - 125		40892.45	40626.25	41779.90
74 Ge #3	203151.78	4.40	224564.78	90.5	60 - 125		192832.67	207863.86	208758.80
89 Y #3	1195848.10	4.26	1302847.50	91.8	60 - 125		1138979.40	1211122.50	1237442.60
115 In #3	1206715.80	4.79	1366177.60	88.3	60 - 125		1142382.80	1223291.60	1254472.90
159 Tb #3	1739755.90	4.81	2052817.90	84.7	60 - 125		1644622.60	1773045.10	1801600.00
209 Bi #3	1038607.70	3.11	1405468.50	73.9	60 - 125		1001936.90	1051328.40	1062557.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\029SMPL.D\029SMPL.D#
 Date Acquired: Aug 26 2014 11:21 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-3-b.ms
 Misc Info: 3005 1/5
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	10.14	10.14	ug/l	2.16	100.00		17321.32	16934.39	16904.31
11 B #3	63.65	63.65	ug/l	0.88	1800.00		86316.80	85590.33	86986.74
23 Na #1	26480	26480	ug/l	0.27	81000.00		80333536.00	81576040.00	80775856.00
24 Mg #1	5582	5582	ug/l	0.30	81000.00		11893690.00	12041996.00	11914123.00
27 Al #1	1095	1095	ug/l	0.49	81000.00		2753800.00	2804767.80	2796330.00
39 K #2	5042	5042	ug/l	1.42	81000.00		1615010.50	1589447.50	1611639.30
40 Ca #1	27670	27670	ug/l	0.26	81000.00		162235230.00	163169550.00	162763790.00
47 Ti #3	20.55	20.55	ug/l	0.65	1620.00		21125.63	21078.99	21119.02
51 V #2	19.94	19.94	ug/l	0.76	1800.00		49264.51	49420.46	49111.91
52 Cr #2	19.58	19.58	ug/l	0.82	1800.00		58403.97	59224.33	58321.54
55 Mn #3	216.6	216.6	ug/l	0.54	1800.00		3852657.00	3884469.00	3875956.30
56 Fe #1	3175	3175	ug/l	0.70	81000.00		24429054.00	24422028.00	24270522.00
59 Co #3	10.38	10.38	ug/l	0.66	1800.00		139977.30	141136.75	140357.73
60 Ni #2	20.28	20.28	ug/l	0.68	1800.00		22445.91	22501.49	22416.97
63 Cu #2	19.09	19.09	ug/l	0.60	1800.00		58152.01	58441.97	58157.68
66 Zn #3	19.6	19.6	ug/l	0.64	1800.00		38855.05	39302.61	39242.41
75 As #2	23.24	23.24	ug/l	0.83	100.00		7507.55	7479.20	7568.91
78 Se #1	20.89	20.89	ug/l	0.72	100.00		4977.36	4995.03	5040.71
88 Sr #3	194.3	194.3	ug/l	0.61	1800.00		4661684.50	4686188.00	4672062.50
95 Mo #3	20.75	20.75	ug/l	0.84	1800.00		76527.97	76544.82	75122.01
107 Ag #3	9.762	9.762	ug/l	0.93	100.00		99815.52	100724.53	99591.60
111 Cd #3	9.722	9.722	ug/l	1.36	100.00		21326.62	21603.69	21603.96
118 Sn #3	40.14	40.14	ug/l	0.32	1800.00		281700.66	278075.06	279251.34
121 Sb #3	9.947	9.947	ug/l	0.30	100.00		83487.62	82995.49	82335.84
137 Ba #3	50.28	50.28	ug/l	0.44	1800.00		185743.41	185558.56	184715.17
202 Hg #3	0.8848	0.8848	ug/l	2.38	5.00		2617.22	2680.91	2581.55
205 Tl #3	7.291	7.291	ug/l	1.18	20.00		176002.52	175931.53	174749.88
208 Pb #3	9.282	9.282	ug/l	0.98	1800.00		305664.94	305744.78	304700.38
232 Th #3	10.63	10.63	ug/l	1.41	#VALUE!		338321.72	336761.47	335376.97
238 U #3	10.37	10.37	ug/l	0.68	#VALUE!		341446.38	341222.97	344200.22

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	388988.00	0.85	442436.88	87.9	60 - 125		385663.00	389063.13	392237.84
45 Sc #1	396812.22	0.55	456299.72	87.0	60 - 125		394546.44	398918.56	396971.66
45 Sc #3	694876.44	0.60	765061.25	90.8	60 - 125		690390.44	695682.94	698556.00
74 Ge #1	137617.89	0.84	153441.28	89.7	60 - 125		136316.94	138506.44	138030.33
74 Ge #2	42475.95	0.69	47804.94	88.9	60 - 125		42137.40	42651.90	42638.53
74 Ge #3	208461.47	0.41	224564.78	92.8	60 - 125		208049.08	207895.16	209440.17
89 Y #3	1237942.10	0.78	1302847.50	95.0	60 - 125		1226885.30	1242407.90	1244533.40
115 In #3	1236484.50	0.62	1366177.60	90.5	60 - 125		1245262.80	1233391.80	1230798.80
159 Tb #3	1777015.60	0.82	2052817.90	86.6	60 - 125		1761734.40	1778414.50	1790897.90
209 Bi #3	1059746.30	0.97	1405468.50	75.4	60 - 125		1048907.40	1060946.50	1069385.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\030SMPL.D\030SMPL.D#
 Date Acquired: Aug 26 2014 11:28 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-3-c msd
 Misc Info: 3005 1/5
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	8.837	8.837	ug/l	1.14	100.00		14465.64	14865.95	14989.40
11 B #3	56.76	56.76	ug/l	0.95	1800.00		76369.60	76275.64	77426.90
23 Na #1	22710	22710	ug/l	0.68	81000.00		68383784.00	68921544.00	68570024.00
24 Mg #1	4803	4803	ug/l	0.94	81000.00		10181847.00	10193480.00	10128485.00
27 Al #1	938.5	938.5	ug/l	0.54	81000.00		2357096.30	2360199.30	2361580.00
39 K #2	4488	4488	ug/l	1.59	81000.00		1392550.90	1381306.50	1398622.00
40 Ca #1	23870	23870	ug/l	0.44	81000.00		138617060.00	138737600.00	139143740.00
47 Ti #3	18.07	18.07	ug/l	0.77	1620.00		18422.84	18526.30	18396.06
51 V #2	17.46	17.46	ug/l	1.27	1800.00		41996.97	41844.39	42006.89
52 Cr #2	17.36	17.36	ug/l	0.86	1800.00		50433.16	50691.75	50698.40
55 Mn #3	193.2	193.2	ug/l	0.60	1800.00		3412502.80	3408472.30	3476183.30
56 Fe #1	2722	2722	ug/l	0.38	81000.00		20590264.00	20552372.00	20856664.00
59 Co #3	9.185	9.185	ug/l	1.86	1800.00		124333.91	123666.88	122670.13
60 Ni #2	17.72	17.72	ug/l	0.34	1800.00		18921.98	19345.70	18977.59
63 Cu #2	16.91	16.91	ug/l	1.54	1800.00		50576.58	50454.21	49571.75
66 Zn #3	18.29	18.29	ug/l	1.36	1800.00		36359.92	36350.00	36252.98
75 As #2	20.43	20.43	ug/l	0.66	100.00		6400.80	6453.48	6425.48
78 Se #1	17.95	17.95	ug/l	0.86	100.00		4251.84	4235.50	4223.83
88 Sr #3	175.4	175.4	ug/l	0.61	1800.00		4083185.30	4168995.30	4229188.50
95 Mo #3	18.31	18.31	ug/l	1.44	1800.00		65751.93	67197.11	67371.23
107 Ag #3	8.707	8.707	ug/l	0.66	100.00		88211.06	88964.98	89102.13
111 Cd #3	8.655	8.655	ug/l	1.00	100.00		18949.61	18965.94	19226.32
118 Sn #3	35.49	35.49	ug/l	0.33	1800.00		245303.28	246835.25	245882.19
121 Sb #3	8.728	8.728	ug/l	2.06	100.00		70989.31	72407.98	73740.64
137 Ba #3	44.56	44.56	ug/l	1.16	1800.00		161823.63	163174.80	165073.55
202 Hg #3	0.7744	0.7744	ug/l	1.59	5.00		2278.84	2323.18	2295.17
205 Tl #3	6.523	6.523	ug/l	0.92	20.00		154855.63	156788.33	156744.33
208 Pb #3	8.266	8.266	ug/l	0.41	1800.00		269618.06	269439.00	272304.00
232 Th #3	9.287	9.287	ug/l	2.87	#VALUE!		295777.28	299630.22	300795.16
238 U #3	9.027	9.027	ug/l	2.80	#VALUE!		297595.75	304021.56	305190.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	386430.03	0.79	442436.88	87.3	60 - 125		382939.88	388484.25	387865.88
45 Sc #1	392413.75	0.63	456299.72	86.0	60 - 125		390193.63	391949.81	395097.78
45 Sc #3	690127.31	0.48	765061.25	90.2	60 - 125		688008.44	688387.06	693986.44
74 Ge #1	135489.19	0.54	153441.28	88.3	60 - 125		134903.22	135256.67	136307.67
74 Ge #2	41302.52	1.07	47804.94	86.4	60 - 125		40897.88	41772.09	41237.61
74 Ge #3	207210.38	1.18	224564.78	92.3	60 - 125		204843.86	207045.33	209741.92
89 Y #3	1220944.40	1.16	1302847.50	93.7	60 - 125		1206349.00	1221829.10	1234654.90
115 In #3	1229742.90	0.18	1366177.60	90.0	60 - 125		1230925.30	1231112.80	1227190.80
159 Tb #3	1766287.90	1.00	2052817.90	86.0	60 - 125		1756548.30	1755650.40	1786664.80
209 Bi #3	1076084.90	3.41	1405468.50	76.6	60 - 125		1056059.50	1053712.10	1118483.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\031SMPL.D\031SMPL.D#
 Date Acquired: Aug 26 2014 11:36 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-4-a
 Misc Info: 3005 1/5
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	9.053E-005	9.053E-005	ug/l	1279.10	100.00		3.33	0.00	0.00
11 B #3	14.59	14.59	ug/l	2.15	1800.00		21255.27	20651.31	21422.13
23 Na #1	12060	12060	ug/l	0.82	81000.00		36138972.00	36009308.00	35943948.00
24 Mg #1	2835	2835	ug/l	0.27	81000.00		5913322.50	5933755.50	5946224.00
27 Al #1	1.742	1.742	ug/l	4.23	81000.00		5504.29	5837.72	5901.07
39 K #2	517.1	517.1	ug/l	0.99	81000.00		167252.92	170771.25	169592.92
40 Ca #1	22210	22210	ug/l	0.95	81000.00		127112730.00	126456400.00	129315170.00
47 Ti #3	0.07087	0.07087	ug/l	40.93	1620.00		200.01	160.00	146.67
51 V #2	0.1577	0.1577	ug/l	12.64	1800.00		635.57	561.13	548.90
52 Cr #2	-0.003207	-0.003207	ug/l	345.18	1800.00		270.00	324.45	263.34
55 Mn #3	90.43	90.43	ug/l	0.71	1800.00		1586780.40	1576787.50	1576656.00
56 Fe #1	436.3	436.3	ug/l	0.41	81000.00		3254907.80	3293643.30	3278409.50
59 Co #3	0.1344	0.1344	ug/l	1.48	1800.00		1806.82	1856.82	1856.82
60 Ni #2	0.2229	0.2229	ug/l	3.39	1800.00		280.00	293.34	274.45
63 Cu #2	-0.0396	-0.0396	ug/l	16.66	1800.00		278.89	254.45	288.89
66 Zn #3	0.413	0.413	ug/l	3.18	1800.00		1343.43	1383.43	1400.10
75 As #2	0.2977	0.2977	ug/l	7.91	100.00		112.33	98.67	107.00
78 Se #1	-0.01589	-0.01589	ug/l	51.01	100.00		12.33	15.33	16.00
88 Sr #3	67.13	67.13	ug/l	0.82	1800.00		1558623.90	1561874.10	1563825.80
95 Mo #3	0.0598	0.0598	ug/l	11.97	1800.00		306.68	320.01	356.68
107 Ag #3	-0.003698	-0.003698	ug/l	37.51	100.00		83.34	86.67	60.00
111 Cd #3	0.0007544	0.0007544	ug/l	116.11	100.00		6.60	6.60	9.92
118 Sn #3	0.007681	0.007681	ug/l	161.44	1800.00		716.71	633.37	796.71
121 Sb #3	0.02077	0.02077	ug/l	8.86	100.00		223.34	196.67	213.34
137 Ba #3	20.83	20.83	ug/l	1.24	1800.00		76297.92	77101.52	77895.02
202 Hg #3	-0.01634	-0.01634	ug/l	5.16	5.00		66.00	62.00	64.67
205 Tl #3	0.009018	0.009018	ug/l	7.20	20.00		373.35	376.68	406.68
208 Pb #3	-0.01348	-0.01348	ug/l	18.52	1800.00		750.03	910.04	796.70
232 Th #3	0.1247	0.1247	ug/l	10.99	#VALUE!		4584.16	4214.08	3890.61
238 U #3	0.08001	0.08001	ug/l	2.13	#VALUE!		2596.97	2700.34	2820.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	383172.34	0.21	442436.88	86.6	60 - 125		384068.38	382964.72	382483.88
45 Sc #1	387689.72	0.55	456299.72	85.0	60 - 125		385381.06	388147.28	389540.81
45 Sc #3	673334.75	0.54	765061.25	88.0	60 - 125		669169.50	674883.38	675951.38
74 Ge #1	134795.08	0.46	153441.28	87.8	60 - 125		134090.06	135228.44	135066.72
74 Ge #2	40961.41	0.58	47804.94	85.7	60 - 125		40911.32	41220.91	40752.01
74 Ge #3	203725.34	0.47	224564.78	90.7	60 - 125		203243.03	203115.55	204817.47
89 Y #3	1197196.80	0.99	1302847.50	91.9	60 - 125		1186285.30	1195573.40	1209731.50
115 In #3	1241454.10	0.95	1366177.60	90.9	60 - 125		1232302.90	1254760.80	1237298.90
159 Tb #3	1739846.10	0.92	2052817.90	84.8	60 - 125		1723210.10	1741220.40	1755107.60
209 Bi #3	1076444.10	2.56	1405468.50	76.6	60 - 125		1059164.00	1061948.50	1108219.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\032SMPL.D\032SMPL.D#
 Date Acquired: Aug 26 2014 11:43 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-5-a
 Misc Info: 3005 1/5
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007757	0.0007757	ug/l	302.31	100.00		0.00	6.67	0.00
11 B #3	1.555	1.555	ug/l	6.96	1800.00		4177.22	3933.83	4147.20
23 Na #1	14.85	14.85	ug/l	1.10	81000.00		124023.21	124945.34	124415.77
24 Mg #1	7.685	7.685	ug/l	0.91	81000.00		16760.96	16554.35	16737.67
27 Al #1	0.9813	0.9813	ug/l	3.13	81000.00		3783.81	3703.79	3863.86
39 K #2	-7.901	-7.901	ug/l	5.79	81000.00		8942.36	9212.56	9149.12
40 Ca #1	49.62	49.62	ug/l	0.55	81000.00		302043.69	300790.06	301828.22
47 Ti #3	-0.03697	-0.03697	ug/l	18.23	1620.00		53.33	66.67	60.00
51 V #2	0.1104	0.1104	ug/l	9.13	1800.00		435.56	475.57	483.34
52 Cr #2	-0.008021	-0.008021	ug/l	77.71	1800.00		247.78	280.00	280.01
55 Mn #3	0.2156	0.2156	ug/l	4.78	1800.00		5030.82	4894.11	5180.90
56 Fe #1	2.237	2.237	ug/l	1.51	81000.00		20201.58	19947.88	20498.42
59 Co #3	-0.0019	-0.0019	ug/l	29.09	1800.00		40.00	30.00	43.33
60 Ni #2	0.1168	0.1168	ug/l	5.21	1800.00		174.45	163.34	165.56
63 Cu #2	-0.07474	-0.07474	ug/l	11.57	1800.00		175.56	190.00	143.34
66 Zn #3	0.2464	0.2464	ug/l	9.69	1800.00		983.39	1086.73	1050.06
75 As #2	0.04565	0.04565	ug/l	41.77	100.00		31.00	30.00	20.67
78 Se #1	-0.04842	-0.04842	ug/l	14.59	100.00		5.00	8.00	7.67
88 Sr #3	0.2123	0.2123	ug/l	2.30	1800.00		4934.14	5020.84	5050.85
95 Mo #3	-0.007711	-0.007711	ug/l	102.78	1800.00		110.00	70.00	53.33
107 Ag #3	-0.004857	-0.004857	ug/l	42.62	100.00		66.67	83.34	40.00
111 Cd #3	0.0008722	0.0008722	ug/l	267.48	100.00		13.31	3.32	6.66
118 Sn #3	-0.00827	-0.00827	ug/l	122.49	1800.00		596.70	666.70	506.69
121 Sb #3	0.005492	0.005492	ug/l	17.73	100.00		73.34	83.34	86.67
137 Ba #3	0.04738	0.04738	ug/l	12.21	1800.00		210.01	186.67	220.01
202 Hg #3	-0.01561	-0.01561	ug/l	17.36	5.00		57.33	68.67	72.00
205 Tl #3	-0.001284	-0.001284	ug/l	72.77	20.00		163.34	143.34	120.00
208 Pb #3	-0.01498	-0.01498	ug/l	15.95	1800.00		686.70	853.37	763.37
232 Th #3	0.03566	0.03566	ug/l	6.91	#VALUE!		1326.76	1403.44	1456.78
238 U #3	0.0006217	0.0006217	ug/l	38.89	#VALUE!		53.34	46.67	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	378810.69	0.24	442436.88	85.6	60 - 125		377763.22	379435.44	379233.47
45 Sc #1	380273.94	0.41	456299.72	83.3	60 - 125		378648.47	380448.31	381725.06
45 Sc #3	649926.13	1.48	765061.25	85.0	60 - 125		652760.50	657779.25	639238.63
74 Ge #1	133685.88	0.50	153441.28	87.1	60 - 125		133392.98	133211.72	134452.95
74 Ge #2	40547.19	0.75	47804.94	84.8	60 - 125		40371.26	40373.47	40896.85
74 Ge #3	200725.97	0.84	224564.78	89.4	60 - 125		199523.38	202643.33	200011.22
89 Y #3	1178064.80	1.28	1302847.50	90.4	60 - 125		1184470.30	1188889.10	1160835.10
115 In #3	1209470.80	2.02	1366177.60	88.5	60 - 125		1217236.50	1229076.50	1182099.40
159 Tb #3	1732334.60	0.99	2052817.90	84.4	60 - 125		1721115.90	1751992.50	1723895.60
209 Bi #3	1095145.90	2.93	1405468.50	77.9	60 - 125		1082490.60	1131683.90	1071262.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\033SMPL.D\033SMPL.D#
 Date Acquired: Aug 26 2014 11:50 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104455-c-6-a
 Misc Info: 3005 1/5
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.005975	0.005975	ug/l	38.46	100.00		13.33	13.33	6.67
11 B # 3	34.65	34.65	ug/l	0.59	1800.00		47625.22	48818.29	48741.22
23 Na # 1	34470	34470	ug/l	0.35	81000.00		104263210.00	103396780.00	104373130.00
24 Mg # 1	6481	6481	ug/l	0.85	81000.00		13626821.00	13700808.00	13792988.00
27 Al # 1	159.5	159.5	ug/l	1.99	81000.00		394153.41	405720.03	405617.16
39 K # 2	4187	4187	ug/l	0.87	81000.00		1301513.00	1295281.50	1309586.60
40 Ca # 1	25830	25830	ug/l	0.79	81000.00		149414560.00	149727630.00	151123790.00
47 Ti # 3	3.164	3.164	ug/l	12.68	1620.00		2874.65	3359.94	3772.99
51 V # 2	0.3238	0.3238	ug/l	2.53	1800.00		998.93	986.70	974.48
52 Cr # 2	0.1403	0.1403	ug/l	4.82	1800.00		704.47	686.69	726.69
55 Mn # 3	344.6	344.6	ug/l	0.95	1800.00		6026941.00	6096163.50	6198196.50
56 Fe # 1	3465	3465	ug/l	0.67	81000.00		26175802.00	26275870.00	26388032.00
59 Co # 3	0.1079	0.1079	ug/l	4.23	1800.00		1460.10	1570.11	1506.77
60 Ni # 2	0.1936	0.1936	ug/l	14.57	1800.00		262.23	278.89	221.11
63 Cu # 2	0.03472	0.03472	ug/l	29.64	1800.00		457.79	518.90	514.46
66 Zn # 3	0.5272	0.5272	ug/l	7.06	1800.00		1540.11	1613.45	1703.47
75 As # 2	0.8992	0.8992	ug/l	4.14	100.00		280.67	306.00	303.34
78 Se # 1	-0.04704	-0.04704	ug/l	10.18	100.00		8.00	7.67	6.00
88 Sr # 3	114.9	114.9	ug/l	1.01	1800.00		2744956.80	2740540.80	2734501.80
95 Mo # 3	0.5989	0.5989	ug/l	3.45	1800.00		2276.88	2363.57	2226.87
107 Ag # 3	-0.00483	-0.00483	ug/l	19.33	100.00		70.00	70.00	53.33
111 Cd # 3	0.003615	0.003615	ug/l	105.86	100.00		12.83	6.15	22.84
118 Sn # 3	-0.004157	-0.004157	ug/l	223.86	1800.00		636.70	686.70	560.03
121 Sb # 3	0.007194	0.007194	ug/l	25.13	100.00		86.67	113.34	90.00
137 Ba # 3	21.4	21.4	ug/l	1.32	1800.00		77881.48	78570.22	79083.68
202 Hg # 3	-0.0199	-0.0199	ug/l	9.10	5.00		55.34	50.00	60.00
205 Tl # 3	-0.003074	-0.003074	ug/l	36.34	20.00		73.34	126.67	106.67
208 Pb # 3	0.07907	0.07907	ug/l	4.52	1800.00		3810.31	3753.64	3967.00
232 Th # 3	0.09235	0.09235	ug/l	2.65	#VALUE!		3097.11	3127.08	3023.80
238 U # 3	0.08704	0.08704	ug/l	5.99	#VALUE!		2743.67	2710.34	3057.14

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392508.84	0.89	442436.88	88.7	60 - 125		388546.72	393847.06	395132.81
45 Sc # 1	392020.66	0.36	456299.72	85.9	60 - 125		393502.03	390729.59	391830.34
45 Sc # 3	694071.88	1.21	765061.25	90.7	60 - 125		685660.75	694060.25	702494.56
74 Ge # 1	134020.95	0.62	153441.28	87.3	60 - 125		133411.08	133685.16	134966.64
74 Ge # 2	41424.67	0.78	47804.94	86.7	60 - 125		41052.74	41568.34	41652.93
74 Ge # 3	206776.67	0.82	224564.78	92.1	60 - 125		206330.22	205346.86	208652.97
89 Y # 3	1227050.10	0.81	1302847.50	94.2	60 - 125		1216525.50	1228189.00	1236435.60
115 In # 3	1230544.00	0.62	1366177.60	90.1	60 - 125		1239231.00	1224827.30	1227573.90
159 Tb # 3	1765491.30	0.28	2052817.90	86.0	60 - 125		1761518.10	1770996.60	1763958.90
209 Bi # 3	1038181.80	0.82	1405468.50	73.9	60 - 125		1031439.60	1035320.40	1047785.20

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\034_CCV.D\034_CCV.D#
 Date Acquired: Aug 26 2014 11:58 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.64 ug/l	0.40	50.00	89.5 - 110		78359.65	79015.33	79611.09
11 B	93.91 ug/l	0.11	100.00	89.5 - 110		118936.77	119043.88	120392.23
23 Na	5184 ug/l	0.73	5000.00	89.5 - 110		15098916.00	15126258.00	14981493.00
24 Mg	5108 ug/l	0.57	5000.00	89.5 - 110		10389543.00	10327848.00	10365827.00
27 Al	529.9 ug/l	1.39	500.00	89.5 - 110		1292695.90	1266803.40	1271484.60
39 K	4953 ug/l	0.49	5000.00	89.5 - 110		1510047.10	1513156.00	1495129.40
40 Ca	5277 ug/l	0.77	5000.00	89.5 - 110		29557932.00	29248840.00	29470712.00
47 Ti	52.06 ug/l	0.10	50.00	89.5 - 110		49976.91	50160.77	50414.98
51 V	49.06 ug/l	0.69	50.00	89.5 - 110		115636.35	114693.97	115862.39
52 Cr	48.78 ug/l	0.35	50.00	89.5 - 110		140177.41	138942.20	138049.98
55 Mn	499.9 ug/l	0.66	500.00	89.5 - 110		8440981.00	8620956.00	8536992.00
56 Fe	5433 ug/l	0.47	5000.00	89.5 - 110		39235260.00	39771332.00	39526692.00
59 Co	49.28 ug/l	0.72	50.00	89.5 - 110		632458.81	643050.81	635110.44
60 Ni	50.16 ug/l	0.68	50.00	89.5 - 110		53138.01	52590.85	53152.43
63 Cu	49.01 ug/l	0.79	50.00	89.5 - 110		142155.89	141438.05	142948.23
66 Zn	47.95 ug/l	0.27	50.00	89.5 - 110		90197.27	90622.84	91051.48
75 As	50.61 ug/l	0.37	50.00	89.5 - 110		15638.69	15586.97	15619.67
78 Se	50.29 ug/l	0.35	50.00	89.5 - 110		11496.30	11616.04	11631.05
88 Sr	49.04 ug/l	1.83	50.00	89.5 - 110		1111367.90	1129361.50	1140721.60
95 Mo	49.8 ug/l	0.58	50.00	89.5 - 110		177600.44	180283.06	177341.27
107 Ag	48.19 ug/l	0.21	50.00	89.5 - 110		480283.63	484032.19	483296.72
111 Cd	48.4 ug/l	0.58	50.00	89.5 - 110		104766.84	104861.13	104455.01
118 Sn	48.92 ug/l	0.08	50.00	89.5 - 110		330846.84	335155.38	333340.00
121 Sb	48.19 ug/l	0.50	50.00	89.5 - 110		391666.44	392682.34	394025.94
137 Ba	49.14 ug/l	0.32	50.00	89.5 - 110		176115.67	177511.86	177732.78
202 Hg	2.556 ug/l	1.96	2.50	89.5 - 110		7064.58	7260.01	7104.27
205 Tl	9.436 ug/l	1.18	10.00	89.5 - 110		218241.88	221544.78	220096.30
208 Pb	47.16 ug/l	0.91	50.00	89.5 - 110		1492768.30	1504555.00	1494744.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	367857.03	0.78	442436.88	83.1	60 - 125		366065.59	366322.44	371183.06
45 Sc	375938.88	0.32	456299.72	82.4	60 - 125		374585.31	376407.13	376824.13
45 Sc	653872.06	0.35	765061.25	85.5	60 - 125		651859.75	653393.00	656363.56
74 Ge	132574.97	0.31	153441.28	86.4	60 - 125		132131.58	132636.70	132956.61
74 Ge	40555.68	0.42	47804.94	84.8	60 - 125		40743.08	40519.38	40404.60
74 Ge	199147.41	0.65	224564.78	88.7	60 - 125		197678.69	199684.56	200078.92
89 Y	1183034.60	1.70	1302847.50	90.8	60 - 125		1168505.00	1205987.10	1174612.00
115 In	1209123.80	0.58	1366177.60	88.5	60 - 125		1201917.00	1215790.90	1209663.40
159 Tb	1720650.60	0.49	2052817.90	83.8	60 - 125		1724573.50	1710898.90	1726479.30
209 Bi	1058299.00	0.78	1405468.50	75.3	60 - 125		1048966.10	1061087.30	1064843.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\035_CCB.D\035_CCB.D#
 Date Acquired: Aug 26 2014 12:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003371	0.003371	ug/l	50.96	#VALUE!		6.67	3.33	10.00
11 B # 3	1.859	1.859	ug/l	15.35	#VALUE!		4470.64	4563.98	4490.64
23 Na # 1	-9.377	-9.377	ug/l	3.54	#VALUE!		51900.17	51606.25	52979.85
24 Mg # 1	0.2816	0.2816	ug/l	8.81	#VALUE!		1516.77	1450.10	1406.76
27 Al # 1	0.05946	0.05946	ug/l	67.88	#VALUE!		1513.44	1400.08	1580.19
39 K # 2	-11.7	-11.7	ug/l	6.38	#VALUE!		7908.56	7618.38	8105.29
40 Ca # 1	1.078	1.078	ug/l	6.39	#VALUE!		27296.95	26933.03	27500.57
47 Ti # 3	-0.05415	-0.05415	ug/l	47.44	#VALUE!		20.00	40.00	80.02
51 V # 2	-0.009258	-0.009258	ug/l	86.34	#VALUE!		170.00	172.23	204.45
52 Cr # 2	-0.01471	-0.01471	ug/l	43.11	#VALUE!		267.78	235.56	240.00
55 Mn # 3	0.02877	0.02877	ug/l	33.94	#VALUE!		1643.45	1973.49	1930.22
56 Fe # 1	1.318	1.318	ug/l	2.00	#VALUE!		12958.13	13101.57	13221.78
59 Co # 3	0.001647	0.001647	ug/l	204.61	#VALUE!		110.00	103.34	36.67
60 Ni # 2	-0.0111	-0.0111	ug/l	73.32	#VALUE!		30.00	25.56	42.22
63 Cu # 2	-0.07834	-0.07834	ug/l	13.77	#VALUE!		192.23	133.34	147.78
66 Zn # 3	-0.1029	-0.1029	ug/l	30.64	#VALUE!		360.01	433.35	353.35
75 As # 2	0.01002	0.01002	ug/l	92.55	#VALUE!		19.33	14.67	14.33
78 Se # 1	-0.03546	-0.03546	ug/l	12.61	#VALUE!		10.67	8.67	9.67
88 Sr # 3	0.001542	0.001542	ug/l	66.41	#VALUE!		180.01	200.01	176.67
95 Mo # 3	0.03275	0.03275	ug/l	28.55	#VALUE!		256.68	200.01	236.67
107 Ag # 3	-0.001259	-0.001259	ug/l	45.81	#VALUE!		103.34	93.34	113.34
111 Cd # 3	0.001189	0.001189	ug/l	63.69	#VALUE!		6.61	9.96	9.95
118 Sn # 3	0.01188	0.01188	ug/l	59.39	#VALUE!		703.37	776.71	786.71
121 Sb # 3	0.02048	0.02048	ug/l	24.51	#VALUE!		176.67	250.01	206.67
137 Ba # 3	0.002673	0.002673	ug/l	74.75	#VALUE!		50.00	36.67	53.34
202 Hg # 3	0.008569	0.008569	ug/l	13.49	#VALUE!		127.00	133.00	150.67
205 Tl # 3	-0.001656	-0.001656	ug/l	33.10	#VALUE!		116.67	136.67	160.01
208 Pb # 3	-0.02093	-0.02093	ug/l	14.50	#VALUE!		500.02	676.88	600.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	383136.28	8.19	442436.88	86.6	60 - 125		364788.22	365256.88	419363.75
45 Sc # 1	370127.97	0.45	456299.72	81.1	60 - 125		371403.38	370739.31	368241.19
45 Sc # 3	673735.56	9.78	765061.25	88.1	60 - 125		635427.44	635957.00	749822.19
74 Ge # 1	130653.34	0.41	153441.28	85.1	60 - 125		130741.66	131137.91	130080.45
74 Ge # 2	40161.11	0.36	47804.94	84.0	60 - 125		40075.02	40080.53	40327.78
74 Ge # 3	203799.94	6.65	224564.78	90.8	60 - 125		195092.14	196890.16	219417.50
89 Y # 3	1222915.90	8.23	1302847.50	93.9	60 - 125		1163645.30	1165880.30	1339222.10
115 In # 3	1261972.00	8.81	1366177.60	92.4	60 - 125		1189355.10	1206540.80	1390020.30
159 Tb # 3	1782375.10	7.79	2052817.90	86.8	60 - 125		1701190.00	1703125.10	1942810.40
209 Bi # 3	1145475.90	8.82	1405468.50	81.5	60 - 125		1064726.10	1112928.40	1258772.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\036SMPL.D\036SMPL.D#
 Date Acquired: Aug 26 2014 12:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-1-b
 Misc Info: 3005 1/5
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007725	0.0007725	ug/l	302.91	100.00		0.00	6.67	0.00
11 B #3	6.052	6.052	ug/l	6.26	1800.00		9625.96	9622.59	9659.26
23 Na #1	3403	3403	ug/l	11.78	81000.00		9484913.00	9275316.00	9279367.00
24 Mg #1	3403	3403	ug/l	11.42	81000.00		6585464.50	6443933.50	6485075.00
27 Al #1	2.079	2.079	ug/l	17.38	81000.00		6241.20	5774.34	6007.77
39 K #2	279.9	279.9	ug/l	5.73	81000.00		93166.07	93678.61	92188.19
40 Ca #1	8747	8747	ug/l	11.04	81000.00		46283872.00	45845272.00	45746568.00
47 Ti #3	0.3705	0.3705	ug/l	8.79	1620.00		446.69	423.35	480.02
51 V #2	0.1277	0.1277	ug/l	12.51	1800.00		504.46	475.57	488.90
52 Cr #2	0.01378	0.01378	ug/l	59.35	1800.00		325.56	304.45	333.34
55 Mn #3	0.1871	0.1871	ug/l	4.38	1800.00		4310.65	4413.99	4620.71
56 Fe #1	8.699	8.699	ug/l	11.82	81000.00		63763.39	62421.72	63207.99
59 Co #3	0.005215	0.005215	ug/l	1.16	1800.00		120.00	130.01	133.34
60 Ni #2	0.03344	0.03344	ug/l	15.17	1800.00		78.89	77.78	75.56
63 Cu #2	-0.0652	-0.0652	ug/l	2.93	1800.00		186.67	190.00	197.78
66 Zn #3	0.3643	0.3643	ug/l	18.68	1800.00		1296.76	1213.41	1186.74
75 As #2	0.07243	0.07243	ug/l	16.25	100.00		33.33	38.33	31.67
78 Se #1	-0.03605	-0.03605	ug/l	21.07	100.00		6.67	11.33	9.67
88 Sr #3	60.51	60.51	ug/l	5.63	1800.00		1367225.10	1347302.30	1362027.30
95 Mo #3	0.2251	0.2251	ug/l	3.48	1800.00		873.38	900.05	923.39
107 Ag #3	7.993E-005	7.993E-005	ug/l	2789.90	100.00		106.67	90.00	136.67
111 Cd #3	0.00182	0.00182	ug/l	137.64	100.00		6.47	6.47	16.46
118 Sn #3	0.01164	0.01164	ug/l	114.09	1800.00		766.71	693.37	676.70
121 Sb #3	0.006911	0.006911	ug/l	32.20	100.00		66.67	106.67	103.34
137 Ba #3	1.113	1.113	ug/l	8.47	1800.00		4080.61	3773.86	4100.62
202 Hg #3	-0.01109	-0.01109	ug/l	51.44	5.00		88.67	76.00	66.33
205 Tl #3	-0.004978	-0.004978	ug/l	13.95	20.00		66.67	40.00	56.67
208 Pb #3	-0.00885	-0.00885	ug/l	42.29	1800.00		970.04	1030.05	846.70
232 Th #3	0.04506	0.04506	ug/l	2.95	#VALUE!		1523.46	1736.82	1660.15
238 U #3	0.008154	0.008154	ug/l	12.95	#VALUE!		300.02	310.02	260.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	370148.31	4.89	442436.88	83.7	60 - 125		349257.97	380320.03	380866.91
45 Sc #1	356983.66	10.00	456299.72	78.2	60 - 125		317700.06	365808.47	387442.44
45 Sc #3	651187.25	5.14	765061.25	85.1	60 - 125		613222.88	663887.19	676451.69
74 Ge #1	125190.54	9.90	153441.28	81.6	60 - 125		110932.56	131129.47	133509.58
74 Ge #2	39374.35	4.62	47804.94	82.4	60 - 125		37295.87	40150.77	40676.40
74 Ge #3	196533.53	5.29	224564.78	87.5	60 - 125		184624.08	201149.89	203826.64
89 Y #3	1157923.10	4.93	1302847.50	88.9	60 - 125		1092014.60	1188467.90	1193286.80
115 In #3	1194446.50	5.42	1366177.60	87.4	60 - 125		1120279.00	1223671.10	1239389.10
159 Tb #3	1711572.10	5.47	2052817.90	83.4	60 - 125		1603873.50	1756405.10	1774437.90
209 Bi #3	1053582.00	5.19	1405468.50	75.0	60 - 125		990385.63	1084387.80	1085972.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\037SMPL.D\037SMPL.D#
 Date Acquired: Aug 26 2014 12:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-2-b
 Misc Info: 3005 1/5
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002704	0.002704	ug/l	42.16	100.00		6.67	3.33	6.67
11 B #3	7.76	7.76	ug/l	2.95	1800.00		12254.11	12847.90	12334.16
23 Na #1	4035	4035	ug/l	0.54	81000.00		12209585.00	12294410.00	12307153.00
24 Mg #1	14220	14220	ug/l	0.88	81000.00		29918816.00	30357560.00	30069000.00
27 Al #1	26.38	26.38	ug/l	1.22	81000.00		67713.31	66917.50	68634.39
39 K #2	406.9	406.9	ug/l	6.63	81000.00		130820.23	133178.75	131333.27
40 Ca #1	21490	21490	ug/l	0.35	81000.00		125506450.00	125074370.00	124587090.00
47 Ti #3	0.2438	0.2438	ug/l	8.53	1620.00		366.69	333.35	333.35
51 V #2	0.4643	0.4643	ug/l	9.32	1800.00		1285.61	1282.28	1245.61
52 Cr #2	0.1407	0.1407	ug/l	9.41	1800.00		647.80	660.02	734.47
55 Mn #3	72.55	72.55	ug/l	0.94	1800.00		1282206.30	1278090.60	1289310.30
56 Fe #1	6305	6305	ug/l	0.23	81000.00		47871264.00	47947288.00	47853212.00
59 Co #3	0.06734	0.06734	ug/l	13.59	1800.00		833.37	1086.73	976.72
60 Ni #2	0.4733	0.4733	ug/l	9.85	1800.00		535.57	498.90	566.68
63 Cu #2	-0.0315	-0.0315	ug/l	38.03	1800.00		290.01	316.67	261.12
66 Zn #3	0.4502	0.4502	ug/l	12.82	1800.00		1476.77	1576.78	1340.09
75 As #2	0.5264	0.5264	ug/l	8.75	100.00		171.00	182.00	163.67
78 Se #1	-0.01227	-0.01227	ug/l	43.88	100.00		15.33	14.33	17.00
88 Sr #3	24.33	24.33	ug/l	0.21	1800.00		574421.69	577072.25	580233.19
95 Mo #3	1.165	1.165	ug/l	5.43	1800.00		4103.92	4574.06	4470.69
107 Ag #3	-0.003789	-0.003789	ug/l	42.52	100.00		73.34	60.00	93.34
111 Cd #3	0.003371	0.003371	ug/l	69.68	100.00		19.10	8.99	12.35
118 Sn #3	0.001832	0.001832	ug/l	843.89	1800.00		793.38	623.36	603.36
121 Sb #3	0.01656	0.01656	ug/l	23.99	100.00		180.01	140.00	206.68
137 Ba #3	2.551	2.551	ug/l	1.43	1800.00		9519.63	9306.20	9539.62
202 Hg #3	-0.01635	-0.01635	ug/l	8.04	5.00		68.67	62.33	63.67
205 Tl #3	-0.004082	-0.004082	ug/l	1.91	20.00		76.67	76.67	80.00
208 Pb #3	0.003722	0.003722	ug/l	34.71	1800.00		1403.41	1343.41	1410.07
232 Th #3	0.04115	0.04115	ug/l	4.55	#VALUE!		1526.79	1603.49	1490.12
238 U #3	0.01232	0.01232	ug/l	12.11	#VALUE!		373.35	466.69	463.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	391408.06	0.55	442436.88	88.5	60 - 125		389011.25	391987.44	393225.50
45 Sc #1	392630.84	0.14	456299.72	86.0	60 - 125		393115.69	392043.69	392733.16
45 Sc #3	681664.94	0.49	765061.25	89.1	60 - 125		678107.81	682223.75	684663.31
74 Ge #1	136146.39	0.48	153441.28	88.7	60 - 125		135888.81	135653.91	136896.45
74 Ge #2	39910.11	6.40	47804.94	83.5	60 - 125		36964.57	41242.03	41523.73
74 Ge #3	206163.27	0.56	224564.78	91.8	60 - 125		205471.91	207500.91	205517.00
89 Y #3	1220965.40	0.69	1302847.50	93.7	60 - 125		1211999.60	1222316.00	1228580.40
115 In #3	1238662.40	0.49	1366177.60	90.7	60 - 125		1232558.80	1238747.60	1244680.90
159 Tb #3	1758682.60	0.54	2052817.90	85.7	60 - 125		1748070.80	1766532.30	1761444.80
209 Bi #3	1069987.80	0.85	1405468.50	76.1	60 - 125		1059918.80	1072568.80	1077475.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\038SMPL.D\038SMPL.D#
 Date Acquired: Aug 26 2014 12:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-3-b
 Misc Info: 3005 1/5
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007534	0.0007534	ug/l	153.04	100.00		0.00	3.33	3.33
11 B # 3	10.19	10.19	ug/l	0.85	1800.00		15409.71	15609.91	15383.10
23 Na # 1	5393	5393	ug/l	0.44	81000.00		16174748.00	16197156.00	16103238.00
24 Mg # 1	5120	5120	ug/l	0.58	81000.00		10732229.00	10617870.00	10764847.00
27 Al # 1	13.32	13.32	ug/l	3.16	81000.00		33553.12	34348.20	35533.98
39 K # 2	1434	1434	ug/l	0.59	81000.00		449897.28	451599.56	451772.06
40 Ca # 1	15150	15150	ug/l	0.64	81000.00		86740656.00	87382584.00	87022264.00
47 Ti # 3	0.1394	0.1394	ug/l	33.19	1620.00		183.34	260.02	266.68
51 V # 2	0.1682	0.1682	ug/l	7.66	1800.00		611.13	636.68	582.24
52 Cr # 2	0.09723	0.09723	ug/l	11.01	1800.00		542.24	604.46	586.68
55 Mn # 3	23.27	23.27	ug/l	1.34	1800.00		410290.06	412556.41	408060.56
56 Fe # 1	1260	1260	ug/l	0.82	81000.00		9422380.00	9515169.00	9416355.00
59 Co # 3	0.02181	0.02181	ug/l	11.77	1800.00		340.01	326.68	396.68
60 Ni # 2	0.1764	0.1764	ug/l	9.97	1800.00		246.67	212.23	244.45
63 Cu # 2	-0.07041	-0.07041	ug/l	2.91	1800.00		191.11	182.22	182.22
66 Zn # 3	0.245	0.245	ug/l	11.19	1800.00		1103.40	996.73	1080.06
75 As # 2	0.2581	0.2581	ug/l	7.79	100.00		101.00	90.00	91.67
78 Se # 1	-0.02602	-0.02602	ug/l	51.73	100.00		16.00	11.00	10.00
88 Sr # 3	7.039	7.039	ug/l	0.32	1800.00		165281.17	165941.09	165648.70
95 Mo # 3	1.039	1.039	ug/l	3.52	1800.00		3723.82	3830.53	4053.90
107 Ag # 3	-0.001267	-0.001267	ug/l	234.89	100.00		100.00	130.00	70.00
111 Cd # 3	-5.77E-005	-5.77E-005	ug/l	76.62	100.00		5.85	5.82	5.77
118 Sn # 3	-0.01343	-0.01343	ug/l	39.20	1800.00		536.69	603.37	540.02
121 Sb # 3	0.01387	0.01387	ug/l	32.32	100.00		136.67	193.34	123.34
137 Ba # 3	1.142	1.142	ug/l	2.56	1800.00		4160.62	4097.28	4334.03
202 Hg # 3	-0.02127	-0.02127	ug/l	6.17	5.00		54.67	50.67	48.33
205 Tl # 3	-0.005021	-0.005021	ug/l	13.21	20.00		73.34	46.67	46.67
208 Pb # 3	-0.001208	-0.001208	ug/l	392.80	1800.00		1396.74	1120.05	1173.39
232 Th # 3	0.01711	0.01711	ug/l	5.98	#VALUE!		733.38	803.38	770.04
238 U # 3	0.00672	0.00672	ug/l	18.78	#VALUE!		290.01	240.01	210.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	385411.97	0.17	442436.88	87.1	60 - 125		384681.84	385851.25	385702.81
45 Sc # 1	387540.34	0.28	456299.72	84.9	60 - 125		388665.38	386542.44	387413.19
45 Sc # 3	672479.50	0.25	765061.25	87.9	60 - 125		670566.81	673029.56	673842.06
74 Ge # 1	136429.19	0.48	153441.28	88.9	60 - 125		136830.22	135673.06	136784.27
74 Ge # 2	41200.11	0.71	47804.94	86.2	60 - 125		40995.91	41071.69	41532.72
74 Ge # 3	205106.06	0.81	224564.78	91.3	60 - 125		204399.23	203904.22	207014.73
89 Y # 3	1210040.50	0.50	1302847.50	92.9	60 - 125		1203143.10	1214170.90	1212807.30
115 In # 3	1222484.60	1.06	1366177.60	89.5	60 - 125		1208054.60	1226230.40	1233169.00
159 Tb # 3	1765571.90	1.12	2052817.90	86.0	60 - 125		1751442.60	1757006.40	1788266.40
209 Bi # 3	1066516.80	0.58	1405468.50	75.9	60 - 125		1060040.90	1067164.90	1072344.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\039SMPL.D\039SMPL.D#
 Date Acquired: Aug 26 2014 12:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-4-b
 Misc Info: 3005 1/5
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001379	0.001379	ug/l	144.60	100.00		3.33	6.67	0.00
11 B #3	3.749	3.749	ug/l	7.36	1800.00		7081.51	7038.12	7414.92
23 Na #1	1886	1886	ug/l	20.66	81000.00		5454103.00	5596490.00	5572733.00
24 Mg #1	6064	6064	ug/l	21.50	81000.00		11977291.00	12579076.00	12330696.00
27 Al #1	18.17	18.17	ug/l	23.03	81000.00		43449.81	46429.90	45330.88
39 K #2	222.6	222.6	ug/l	0.29	81000.00		78208.41	79313.25	80052.99
40 Ca #1	9755	9755	ug/l	21.01	81000.00		53361224.00	55417444.00	54414504.00
47 Ti #3	0.3986	0.3986	ug/l	18.98	1620.00		607.48	426.84	466.74
51 V #2	0.2167	0.2167	ug/l	6.92	1800.00		747.80	686.69	723.35
52 Cr #2	0.09599	0.09599	ug/l	11.97	1800.00		550.01	543.35	614.46
55 Mn #3	55.44	55.44	ug/l	1.30	1800.00		962956.63	983610.38	974769.56
56 Fe #1	5279	5279	ug/l	21.07	81000.00		37407004.00	38982060.00	38817388.00
59 Co #3	0.03778	0.03778	ug/l	6.63	1800.00		550.02	603.36	543.36
60 Ni #2	0.178	0.178	ug/l	16.46	1800.00		241.12	198.89	262.23
63 Cu #2	-0.03058	-0.03058	ug/l	12.93	1800.00		292.23	290.01	316.67
66 Zn #3	0.5117	0.5117	ug/l	11.68	1800.00		1450.09	1600.11	1666.80
75 As #2	0.6597	0.6597	ug/l	2.22	100.00		220.00	213.67	220.34
78 Se #1	-0.01801	-0.01801	ug/l	28.75	100.00		14.67	12.67	15.00
88 Sr #3	4.883	4.883	ug/l	3.40	1800.00		112666.43	116693.95	115134.53
95 Mo #3	1.436	1.436	ug/l	1.37	1800.00		5280.94	5330.97	5310.95
107 Ag #3	-0.0026	-0.0026	ug/l	21.64	100.00		90.00	90.00	80.00
111 Cd #3	-0.001216	-0.001216	ug/l	73.24	100.00		2.17	5.49	2.17
118 Sn #3	-0.005416	-0.005416	ug/l	176.13	1800.00		626.70	673.37	546.69
121 Sb #3	0.006715	0.006715	ug/l	13.74	100.00		96.67	96.67	83.34
137 Ba #3	1.117	1.117	ug/l	1.51	1800.00		4150.64	4013.95	4160.63
202 Hg #3	-0.02152	-0.02152	ug/l	8.89	5.00		46.00	49.00	55.67
205 Tl #3	-0.004126	-0.004126	ug/l	19.94	20.00		76.67	96.67	56.67
208 Pb #3	0.00539	0.00539	ug/l	44.68	1800.00		1356.73	1470.08	1483.40
232 Th #3	0.0228	0.0228	ug/l	14.61	#VALUE!		1010.07	1066.74	870.06
238 U #3	0.007345	0.007345	ug/l	4.02	#VALUE!		280.01	270.01	280.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	393825.50	3.27	442436.88	89.0	60 - 125		408693.94	386646.88	386135.66
45 Sc #1	386612.94	19.52	456299.72	84.7	60 - 125		466468.66	316452.75	376917.34
45 Sc #3	679996.00	3.60	765061.25	88.9	60 - 125		707964.06	662307.19	669716.75
74 Ge #1	136166.05	13.76	153441.28	88.7	60 - 125		155673.48	118301.35	134523.30
74 Ge #2	40832.28	1.32	47804.94	85.4	60 - 125		40311.14	40799.97	41385.73
74 Ge #3	204688.88	0.29	224564.78	91.1	60 - 125		205351.45	204483.64	204231.55
89 Y #3	1209427.50	1.80	1302847.50	92.8	60 - 125		1234194.10	1200614.10	1193474.00
115 In #3	1223704.60	0.88	1366177.60	89.6	60 - 125		1235371.50	1214244.30	1221497.90
159 Tb #3	1755319.10	0.82	2052817.90	85.5	60 - 125		1765245.80	1761870.00	1738841.90
209 Bi #3	1103944.60	4.67	1405468.50	78.5	60 - 125		1162838.50	1067159.40	1081835.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\040SMPL.D\040SMPL.D#
 Date Acquired: Aug 26 2014 12:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-5-b
 Misc Info: 3005 1/5
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.03493	0.03493	ug/l	23.64	100.00		43.33	63.34	70.00
11 B #3	4.461	4.461	ug/l	2.91	1800.00		7698.37	8021.87	8038.51
23 Na #1	1844	1844	ug/l	0.27	81000.00		5525902.00	5510604.00	5528649.00
24 Mg #1	2314	2314	ug/l	0.59	81000.00		4762369.00	4817648.00	4787028.00
27 Al #1	788.6	788.6	ug/l	0.82	81000.00		1947912.30	1938425.00	1926745.40
39 K #2	148	148	ug/l	1.80	81000.00		55618.89	55354.93	55812.99
40 Ca #1	4392	4392	ug/l	0.16	81000.00		24953962.00	24983786.00	25015934.00
47 Ti #3	9.911	9.911	ug/l	20.46	1620.00		12023.15	8948.85	8353.84
51 V #2	1.907	1.907	ug/l	3.14	1800.00		4657.29	4533.92	4715.08
52 Cr #2	0.7304	0.7304	ug/l	0.23	1800.00		2337.95	2376.84	2325.72
55 Mn #3	6.605	6.605	ug/l	0.75	1800.00		116127.08	116583.98	115443.27
56 Fe #1	223.4	223.4	ug/l	0.91	81000.00		1667220.00	1667195.60	1648960.60
59 Co #3	0.04598	0.04598	ug/l	8.39	1800.00		723.37	640.03	640.03
60 Ni #2	0.3187	0.3187	ug/l	5.18	1800.00		395.56	366.67	368.90
63 Cu #2	0.2064	0.2064	ug/l	7.70	1800.00		946.70	956.70	1016.70
66 Zn #3	0.6366	0.6366	ug/l	0.43	1800.00		1793.47	1796.81	1796.81
75 As #2	0.143	0.143	ug/l	13.22	100.00		59.00	50.67	60.33
78 Se #1	0.4022	0.4022	ug/l	6.80	100.00		104.67	113.67	117.00
88 Sr #3	20.28	20.28	ug/l	1.50	1800.00		474217.53	475753.78	479179.31
95 Mo #3	0.1984	0.1984	ug/l	4.13	1800.00		860.05	826.71	803.37
107 Ag #3	-0.002105	-0.002105	ug/l	20.95	100.00		93.34	86.67	96.67
111 Cd #3	0.1319	0.1319	ug/l	15.43	100.00		296.49	249.83	343.17
118 Sn #3	-0.004779	-0.004779	ug/l	174.12	1800.00		630.03	673.37	566.69
121 Sb #3	0.05984	0.05984	ug/l	2.44	100.00		526.69	543.36	530.02
137 Ba #3	14.83	14.83	ug/l	0.78	1800.00		54675.16	54394.13	54273.66
202 Hg #3	-0.01898	-0.01898	ug/l	13.98	5.00		49.67	58.00	64.34
205 Tl #3	0.001218	0.001218	ug/l	33.01	20.00		200.01	196.67	213.34
208 Pb #3	0.388	0.388	ug/l	0.47	1800.00		13739.41	13859.44	13816.11
232 Th #3	0.08404	0.08404	ug/l	2.43	#VALUE!		3043.74	2893.70	3043.77
238 U #3	1.074	1.074	ug/l	2.28	#VALUE!		36744.65	36477.40	37212.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	383206.69	0.37	442436.88	86.6	60 - 125		381921.34	382953.91	384744.84
45 Sc #1	383474.59	0.28	456299.72	84.0	60 - 125		382592.81	383171.25	384659.84
45 Sc #3	663728.00	0.17	765061.25	86.8	60 - 125		662804.06	664998.25	663381.75
74 Ge #1	134171.75	0.02	153441.28	87.4	60 - 125		134157.20	134156.27	134201.80
74 Ge #2	40157.45	1.02	47804.94	84.0	60 - 125		40089.48	40596.19	39786.66
74 Ge #3	202663.34	0.39	224564.78	90.2	60 - 125		201794.00	202858.45	203337.59
89 Y #3	1208611.00	0.96	1302847.50	92.8	60 - 125		1218923.60	1210883.40	1196025.90
115 In #3	1230672.00	0.66	1366177.60	90.1	60 - 125		1232833.40	1221681.40	1237501.10
159 Tb #3	1753468.30	0.39	2052817.90	85.4	60 - 125		1752355.40	1760832.60	1747216.60
209 Bi #3	1100161.10	2.09	1405468.50	78.3	60 - 125		1126287.80	1083029.30	1091166.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\041SMPL.D\041SMPL.D#
 Date Acquired: Aug 26 2014 12:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62384-k-6-b
 Misc Info: 3005 1/5
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tuna Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.08121	0.08121	ug/l	2.32	100.00		133.34	136.67	140.00
11 B # 3	5.134	5.134	ug/l	2.41	1800.00		8668.82	8965.59	8965.60
23 Na # 1	1958	1958	ug/l	0.22	81000.00		5904045.00	5918842.50	5920403.00
24 Mg # 1	2405	2405	ug/l	0.69	81000.00		5029670.00	5038895.50	4999616.50
27 Al # 1	3333	3333	ug/l	0.56	81000.00		8236610.00	8303447.50	8246773.00
39 K # 2	270.4	270.4	ug/l	1.06	81000.00		93550.78	92401.99	93758.71
40 Ca # 1	5533	5533	ug/l	0.24	81000.00		31614252.00	31814990.00	31883812.00
47 Ti # 3	15.34	15.34	ug/l	3.90	1620.00		15251.14	15861.40	14649.66
51 V # 2	4.401	4.401	ug/l	0.44	1800.00		10533.03	10531.92	10609.74
52 Cr # 2	4.034	4.034	ug/l	0.21	1800.00		11730.41	11772.69	11868.29
55 Mn # 3	6.482	6.482	ug/l	0.83	1800.00		113991.04	112702.66	113956.95
56 Fe # 1	585.5	585.5	ug/l	0.30	81000.00		4389667.50	4370917.00	4405830.00
59 Co # 3	0.03079	0.03079	ug/l	8.99	1800.00		426.68	500.02	473.35
60 Ni # 2	0.3358	0.3358	ug/l	5.55	1800.00		400.01	377.78	421.12
63 Cu # 2	4.528	4.528	ug/l	1.57	1800.00		13541.73	13593.96	13388.27
66 Zn # 3	1.097	1.097	ug/l	7.60	1800.00		2830.30	2606.94	2563.59
75 As # 2	0.8908	0.8908	ug/l	3.03	100.00		279.34	297.00	288.67
78 Se # 1	5.254	5.254	ug/l	1.61	100.00		1226.05	1233.71	1264.05
88 Sr # 3	50.25	50.25	ug/l	0.18	1800.00		1233681.60	1229770.30	1244629.00
95 Mo # 3	4.171	4.171	ug/l	1.18	1800.00		15030.03	15343.65	15306.98
107 Ag # 3	0.01537	0.01537	ug/l	17.48	100.00		256.68	300.01	250.01
111 Cd # 3	0.1312	0.1312	ug/l	11.21	100.00		256.70	306.64	316.65
118 Sn # 3	0.03553	0.03553	ug/l	29.38	1800.00		896.72	970.05	826.71
121 Sb # 3	0.1892	0.1892	ug/l	11.16	100.00		1403.43	1736.81	1653.46
137 Ba # 3	16.58	16.58	ug/l	1.16	1800.00		60240.89	60033.22	61331.02
202 Hg # 3	0.1013	0.1013	ug/l	5.72	5.00		384.34	391.34	418.34
205 Tl # 3	0.007458	0.007458	ug/l	17.46	20.00		343.35	390.02	330.01
208 Pb # 3	1.715	1.715	ug/l	1.68	1800.00		56307.21	56735.00	58475.81
232 Th # 3	0.4317	0.4317	ug/l	2.30	#VALUE!		14594.17	14690.88	14887.66
238 U # 3	3.676	3.676	ug/l	2.13	#VALUE!		127241.33	130326.88	128079.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	386271.47	0.14	442436.88	87.3	60 - 125		385803.44	386134.69	386876.34
45 Sc # 1	387135.97	0.30	456299.72	84.8	60 - 125		386175.19	386778.91	388453.78
45 Sc # 3	671459.13	0.11	765061.25	87.8	60 - 125		671795.13	671978.25	670604.06
74 Ge # 1	134238.00	0.11	153441.28	87.5	60 - 125		134079.05	134378.06	134256.89
74 Ge # 2	40628.85	0.81	47804.94	85.0	60 - 125		40343.40	40556.13	40987.01
74 Ge # 3	202005.41	0.75	224564.78	90.0	60 - 125		200880.36	201399.97	203735.91
89 Y # 3	1265846.00	0.58	1302847.50	97.2	60 - 125		1266038.10	1258441.80	1273058.10
115 In # 3	1224320.90	0.05	1366177.60	89.6	60 - 125		1224983.50	1223818.50	1224160.40
159 Tb # 3	1768249.80	0.53	2052817.90	86.1	60 - 125		1757622.00	1772249.50	1774677.50
209 Bi # 3	1123471.80	2.85	1405468.50	79.9	60 - 125		1086526.50	1143539.10	1140349.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\042SMPL.D\042SMPL.D#
 Date Acquired: Aug 26 2014 12:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62399-k-1-b
 Misc Info: 3005 1/5
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002069	0.002069	ug/l	146.98	100.00		3.33	0.00	10.00
11 B # 3	9.243	9.243	ug/l	0.72	1800.00		14479.08	14365.59	14345.61
23 Na # 1	1134	1134	ug/l	19.08	81000.00		3390179.00	3531757.80	3528038.80
24 Mg # 1	1917	1917	ug/l	18.47	81000.00		3924533.80	4070569.00	4108908.80
27 Al # 1	14.66	14.66	ug/l	19.71	81000.00		37177.16	39015.27	37877.97
39 K # 2	1238	1238	ug/l	0.79	81000.00		386605.94	390337.63	388730.66
40 Ca # 1	6923	6923	ug/l	18.53	81000.00		39113032.00	40656732.00	40366552.00
47 Ti # 3	0.1131	0.1131	ug/l	30.47	1620.00		180.01	246.68	203.34
51 V # 2	1.721	1.721	ug/l	2.56	1800.00		4380.54	4282.75	4194.95
52 Cr # 2	0.07606	0.07606	ug/l	16.67	1800.00		537.79	533.35	468.90
55 Mn # 3	7.969	7.969	ug/l	0.84	1800.00		141725.73	141278.48	141996.77
56 Fe # 1	230.4	230.4	ug/l	19.43	81000.00		1677978.50	1776001.90	1767952.60
59 Co # 3	0.1271	0.1271	ug/l	5.77	1800.00		1720.12	1690.13	1863.48
60 Ni # 2	1.113	1.113	ug/l	3.51	1800.00		1240.05	1275.61	1174.49
63 Cu # 2	1.087	1.087	ug/l	2.34	1800.00		3500.36	3563.71	3624.83
66 Zn # 3	5.646	5.646	ug/l	1.43	1800.00		11643.96	11480.60	11450.49
75 As # 2	0.2119	0.2119	ug/l	6.39	100.00		81.00	75.33	81.33
78 Se # 1	0.01008	0.01008	ug/l	90.03	100.00		23.00	21.33	19.00
88 Sr # 3	8.695	8.695	ug/l	0.42	1800.00		201741.56	203627.23	203934.86
95 Mo # 3	0.9032	0.9032	ug/l	6.67	1800.00		3480.44	3563.80	3187.05
107 Ag # 3	0.001653	0.001653	ug/l	100.91	100.00		113.34	130.00	150.01
111 Cd # 3	0.04565	0.04565	ug/l	19.18	100.00		89.24	102.55	129.30
118 Sn # 3	0.5157	0.5157	ug/l	3.76	1800.00		4300.67	4290.66	4127.29
121 Sb # 3	0.166	0.166	ug/l	5.33	100.00		1486.78	1366.76	1403.43
137 Ba # 3	1.452	1.452	ug/l	1.24	1800.00		5250.98	5441.05	5461.07
202 Hg # 3	-0.01764	-0.01764	ug/l	16.99	5.00		71.34	57.33	56.00
205 Tl # 3	0.06862	0.06862	ug/l	4.06	20.00		1890.17	1806.83	1753.49
208 Pb # 3	0.02549	0.02549	ug/l	17.42	1800.00		2053.45	2270.13	1980.12
232 Th # 3	0.02996	0.02996	ug/l	11.77	#VALUE!		1286.76	1233.42	1076.74
238 U # 3	0.1594	0.1594	ug/l	1.10	#VALUE!		5431.14	5427.80	5374.46

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389948.41	0.61	442436.88	88.1	60 - 125		390704.72	391855.81	387284.69
45 Sc # 1	398646.75	17.47	456299.72	87.4	60 - 125		475087.41	338826.31	382026.50
45 Sc # 3	670834.75	0.09	765061.25	87.7	60 - 125		671136.69	670147.94	671219.63
74 Ge # 1	138572.02	10.76	153441.28	90.3	60 - 125		154644.33	125182.57	135889.14
74 Ge # 2	40935.80	1.10	47804.94	85.6	60 - 125		40689.67	41454.76	40662.98
74 Ge # 3	205450.36	0.61	224564.78	91.5	60 - 125		204445.63	206866.34	205039.09
89 Y # 3	1201385.50	0.90	1302847.50	92.2	60 - 125		1189402.40	1210212.10	1204542.10
115 In # 3	1235442.90	1.01	1366177.60	90.4	60 - 125		1222022.10	1237461.90	1246844.50
159 Tb # 3	1766677.30	0.31	2052817.90	86.1	60 - 125		1767166.30	1771846.40	1761019.50
209 Bi # 3	1085331.10	0.71	1405468.50	77.2	60 - 125		1076549.00	1090998.60	1088445.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\043SMPL.D\043SMPL.D#
 Date Acquired: Aug 26 2014 01:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62399-k-2-b
 Misc Info: 3005 1/5
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.291E-005	7.291E-005	ug/l	1547.10	100.00		0.00	0.00	3.33
11 B # 3	6.233	6.233	ug/l	2.17	1800.00		10629.80	10246.29	10503.09
23 Na # 1	1611	1611	ug/l	0.66	81000.00		4856617.50	4932426.00	4914671.00
24 Mg # 1	1910	1910	ug/l	0.32	81000.00		3986958.80	3988290.80	4045614.00
27 Al # 1	31.27	31.27	ug/l	1.21	81000.00		79769.04	79016.30	79036.87
39 K # 2	917.2	917.2	ug/l	0.68	81000.00		291474.56	294534.63	296654.63
40 Ca # 1	6741	6741	ug/l	0.62	81000.00		38887032.00	38705276.00	39015504.00
47 Ti # 3	0.3039	0.3039	ug/l	10.49	1620.00		403.37	430.02	370.02
51 V # 2	4.241	4.241	ug/l	0.45	1800.00		10309.58	10346.27	10467.45
52 Cr # 2	0.1268	0.1268	ug/l	8.04	1800.00		668.91	630.02	701.13
55 Mn # 3	3.172	3.172	ug/l	0.75	1800.00		57338.84	57268.65	56703.12
56 Fe # 1	536.8	536.8	ug/l	0.26	81000.00		4020840.30	4043580.80	4060119.50
59 Co # 3	0.3353	0.3353	ug/l	3.47	1800.00		4450.67	4417.31	4710.73
60 Ni # 2	0.4402	0.4402	ug/l	4.63	1800.00		535.57	493.34	530.01
63 Cu # 2	0.1897	0.1897	ug/l	6.86	1800.00		915.59	991.15	955.59
66 Zn # 3	0.9667	0.9667	ug/l	6.20	1800.00		2396.88	2586.92	2383.56
75 As # 2	1.516	1.516	ug/l	0.14	100.00		487.01	488.01	496.67
78 Se # 1	0.2157	0.2157	ug/l	17.36	100.00		71.33	59.67	77.33
88 Sr # 3	7.798	7.798	ug/l	0.41	1800.00		184298.28	183235.98	184831.64
95 Mo # 3	5.256	5.256	ug/l	2.01	1800.00		19761.36	18853.71	19467.73
107 Ag # 3	-0.004211	-0.004211	ug/l	11.50	100.00		70.00	66.67	76.67
111 Cd # 3	0.005893	0.005893	ug/l	87.38	100.00		32.32	12.52	12.38
118 Sn # 3	-0.008458	-0.008458	ug/l	31.79	1800.00		593.36	620.03	590.03
121 Sb # 3	0.1541	0.1541	ug/l	6.79	100.00		1400.09	1340.09	1226.74
137 Ba # 3	0.6335	0.6335	ug/l	2.12	1800.00		2356.91	2326.91	2430.25
202 Hg # 3	-0.01946	-0.01946	ug/l	16.44	5.00		63.67	46.00	60.33
205 Tl # 3	0.01689	0.01689	ug/l	7.72	20.00		610.03	543.36	593.37
208 Pb # 3	0.01521	0.01521	ug/l	6.07	1800.00		1763.43	1796.76	1760.09
232 Th # 3	0.01857	0.01857	ug/l	19.71	#VALUE!		863.39	936.73	733.37
238 U # 3	0.06265	0.06265	ug/l	2.26	#VALUE!		2183.58	2166.89	2200.23

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391881.78	0.58	442436.88	88.6	60 - 125		391096.69	390087.41	394461.28
45 Sc # 1	388819.81	0.72	456299.72	85.2	60 - 125		386235.06	388442.53	391781.81
45 Sc # 3	675601.38	0.61	765061.25	88.3	60 - 125		671882.50	674862.50	680059.13
74 Ge # 1	136261.25	0.60	153441.28	88.8	60 - 125		135426.80	136289.59	137067.33
74 Ge # 2	41398.33	1.22	47804.94	86.6	60 - 125		41066.06	41149.60	41979.32
74 Ge # 3	205106.84	0.13	224564.78	91.3	60 - 125		204998.64	204915.55	205406.34
89 Y # 3	1214322.10	0.77	1302847.50	93.2	60 - 125		1220496.60	1203508.40	1218961.50
115 In # 3	1236915.10	0.40	1366177.60	90.5	60 - 125		1241187.50	1231522.80	1238034.80
159 Tb # 3	1773830.10	0.60	2052817.90	86.4	60 - 125		1783695.00	1762515.00	1775280.80
209 Bi # 3	1107343.80	2.74	1405468.50	78.8	60 - 125		1083472.40	1097037.50	1141521.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\044_QCS.D\044_QCS.D#
 Date Acquired: Aug 26 2014 01:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 2501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.00 ug/l	0.00	0.10 69.5 - 130	Fail
11 B	-1.32 ug/l	2.13	20.00 69.5 - 130	Fail
23 Na	-22.71 ug/l	0.49	50.00 69.5 - 130	Fail
24 Mg	-0.37 ug/l	1.27	50.00 69.5 - 130	Fail
27 Al	0.62 ug/l	11.22	10.00 69.5 - 130	Fail
39 K	-33.01 ug/l	0.41	50.00 69.5 - 130	Fail
40 Ca	-3.19 ug/l	1.40	50.00 69.5 - 130	Fail
47 Ti	-0.08 ug/l	14.52	1.00 69.5 - 130	Fail
51 V	-0.08 ug/l	0.18	1.00 69.5 - 130	Fail
52 Cr	-0.09 ug/l	0.37	1.00 69.5 - 130	Fail
55 Mn	-0.04 ug/l	0.70	1.00 69.5 - 130	Fail
56 Fe	-0.15 ug/l	61.11	20.00 69.5 - 130	Fail
59 Co	0.00 ug/l	6.25	0.10 69.5 - 130	Fail
60 Ni	-0.04 ug/l	5.17	1.00 69.5 - 130	Fail
63 Cu	-0.12 ug/l	0.91	1.00 69.5 - 130	Fail
66 Zn	-0.27 ug/l	0.68	4.00 69.5 - 130	Fail
75 As	-0.04 ug/l	4.13	0.50 69.5 - 130	Fail
78 Se	-0.07 ug/l	2.30	0.50 69.5 - 130	Fail
88 Sr	-0.01 ug/l	6.23	0.20 69.5 - 130	Fail
95 Mo	-0.02 ug/l	5.16	1.00 69.5 - 130	Fail
107 Ag	-0.01 ug/l	4.91	0.20 69.5 - 130	Fail
111 Cd	0.00 ug/l	9.75	0.10 69.5 - 130	Fail
118 Sn	-0.06 ug/l	1.22	1.00 69.5 - 130	Fail
121 Sb	0.00 ug/l	25.68	1.00 69.5 - 130	Fail
137 Ba	-0.01 ug/l	15.83	1.00 69.5 - 130	Fail
202 Hg	-0.02 ug/l	10.78	0.16 69.5 - 130	Fail
205 Tl	-0.01 ug/l	1.51	0.20 69.5 - 130	Fail
208 Pb	-0.03 ug/l	7.19	0.30 69.5 - 130	Fail

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1526096.80	1.78	442436.88	344.9	60 - 125	IS Fail
45 Sc	1332708.30	1.32	456299.72	292.1	60 - 125	IS Fail
45 Sc	2366234.80	1.40	765061.25	309.3	60 - 125	IS Fail
74 Ge	476522.94	2.30	153441.28	310.6	60 - 125	IS Fail
74 Ge	147995.41	1.65	47804.94	309.6	60 - 125	IS Fail
74 Ge	731864.69	1.21	224564.78	325.9	60 - 125	IS Fail
89 Y	4171340.30	0.93	1302847.50	320.2	60 - 125	IS Fail
115 In	4280357.50	0.65	1366177.60	313.3	60 - 125	IS Fail
159 Tb	6162274.50	0.73	2052817.90	300.2	60 - 125	IS Fail
209 Bi	4046011.30	0.92	1405468.50	287.9	60 - 125	IS Fail

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

28 :Element Failures 0 :Max. Number of Failures Allowed
 10 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Fail

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\045_CCV.D\045_CCV.D#
 Date Acquired: Aug 26 2014 01:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.17 ug/l	1.28	50.00	89.5 - 110		79273.17	79336.79	78506.92
11 B	91.46 ug/l	0.60	100.00	89.5 - 110		116974.61	117725.35	118007.13
23 Na	5173 ug/l	1.43	5000.00	89.5 - 110		15093270.00	14996390.00	14780151.00
24 Mg	5084 ug/l	0.99	5000.00	89.5 - 110		10283371.00	10299082.00	10185775.00
27 Al	530.3 ug/l	0.28	500.00	89.5 - 110		1265683.10	1270491.80	1276955.80
39 K	5020 ug/l	0.57	5000.00	89.5 - 110		1514014.40	1505470.40	1529255.40
40 Ca	5276 ug/l	0.65	5000.00	89.5 - 110		29364486.00	29237240.00	29171256.00
47 Ti	52.36 ug/l	1.32	50.00	89.5 - 110		50708.98	49626.07	51384.00
51 V	49.55 ug/l	1.33	50.00	89.5 - 110		116206.59	115403.73	115716.94
52 Cr	48.75 ug/l	1.00	50.00	89.5 - 110		138352.45	137234.28	138560.23
55 Mn	502.9 ug/l	0.95	500.00	89.5 - 110		8537878.00	8496767.00	8637177.00
56 Fe	5407 ug/l	0.39	5000.00	89.5 - 110		39107136.00	39112964.00	39112952.00
59 Co	50.12 ug/l	1.56	50.00	89.5 - 110		638911.31	644085.19	654087.31
60 Ni	50.32 ug/l	1.36	50.00	89.5 - 110		53061.10	52511.72	52766.90
63 Cu	48.96 ug/l	0.95	50.00	89.5 - 110		141625.08	139604.38	142072.77
66 Zn	48.36 ug/l	1.53	50.00	89.5 - 110		90099.78	91456.59	91731.76
75 As	51 ug/l	1.08	50.00	89.5 - 110		15707.75	15471.55	15712.41
78 Se	50.11 ug/l	0.40	50.00	89.5 - 110		11318.86	11436.60	11342.88
88 Sr	48.87 ug/l	1.28	50.00	89.5 - 110		1123990.50	1106122.30	1134110.60
95 Mo	50.05 ug/l	0.57	50.00	89.5 - 110		178731.92	176495.48	179784.03
107 Ag	48.47 ug/l	0.30	50.00	89.5 - 110		481077.59	480845.09	486143.06
111 Cd	48.19 ug/l	0.79	50.00	89.5 - 110		103797.43	103993.05	103211.43
118 Sn	48.75 ug/l	0.22	50.00	89.5 - 110		329509.16	328606.41	332380.56
121 Sb	47.99 ug/l	0.22	50.00	89.5 - 110		387960.19	387774.09	391363.06
137 Ba	48.99 ug/l	0.43	50.00	89.5 - 110		175158.59	175826.22	175890.09
202 Hg	2.516 ug/l	0.87	2.50	89.5 - 110		6919.19	6947.54	7014.56
205 Tl	9.387 ug/l	0.85	10.00	89.5 - 110		214143.97	217561.97	218055.20
208 Pb	47.11 ug/l	0.42	50.00	89.5 - 110		1479644.80	1480350.10	1481230.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	371605.47	0.71	442436.88	84.0	60 - 125		370605.13	369626.56	374584.72
45 Sc	373920.81	0.39	456299.72	81.9	60 - 125		373415.88	372769.09	375577.50
45 Sc	655200.38	0.46	765061.25	85.6	60 - 125		656514.75	651764.81	657321.50
74 Ge	130597.67	0.18	153441.28	85.1	60 - 125		130546.32	130855.14	130391.53
74 Ge	40289.17	1.26	47804.94	84.3	60 - 125		40010.43	39982.55	40874.52
74 Ge	198511.78	0.63	224564.78	88.4	60 - 125		199826.19	197325.88	198383.28
89 Y	1181059.30	0.09	1302847.50	90.7	60 - 125		1182196.50	1180792.60	1180188.50
115 In	1202482.60	0.40	1366177.60	88.0	60 - 125		1202037.40	1197904.60	1207505.90
159 Tb	1703071.80	0.42	2052817.90	83.0	60 - 125		1698035.00	1711346.30	1699834.10
209 Bi	1043430.50	0.28	1405468.50	74.2	60 - 125		1040041.30	1044730.60	1045519.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\046_CCB.D\046_CCB.D#
 Date Acquired: Aug 26 2014 01:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003559	0.003559	ug/l	116.04	#VALUE!		13.33	0.00	6.67
11 B # 3	1.513	1.513	ug/l	1.47	#VALUE!		3940.51	3963.85	3977.19
23 Na # 1	-10.55	-10.55	ug/l	0.38	#VALUE!		48812.16	48688.53	49016.15
24 Mg # 1	0.3098	0.3098	ug/l	13.64	#VALUE!		1416.76	1546.79	1580.11
27 Al # 1	0.1295	0.1295	ug/l	11.58	#VALUE!		1633.45	1703.46	1656.78
39 K # 2	-10.52	-10.52	ug/l	6.42	#VALUE!		8445.45	8402.08	8091.98
40 Ca # 1	1.116	1.116	ug/l	0.84	#VALUE!		27460.33	27470.53	27447.19
47 Ti # 3	-0.0508	-0.0508	ug/l	28.50	#VALUE!		60.00	43.33	33.33
51 V # 2	-0.009375	-0.009375	ug/l	44.74	#VALUE!		188.89	172.22	190.00
52 Cr # 2	-0.0161	-0.0161	ug/l	43.15	#VALUE!		268.89	234.45	235.56
55 Mn # 3	0.02833	0.02833	ug/l	6.30	#VALUE!		1826.81	1716.79	1806.81
56 Fe # 1	1.292	1.292	ug/l	3.19	#VALUE!		12634.55	12848.08	13255.05
59 Co # 3	0.0007613	0.0007613	ug/l	91.97	#VALUE!		66.67	80.00	66.67
60 Ni # 2	-0.007532	-0.007532	ug/l	114.62	#VALUE!		28.89	46.67	34.44
63 Cu # 2	-0.08004	-0.08004	ug/l	2.91	#VALUE!		152.22	148.89	162.22
66 Zn # 3	-0.0693	-0.0693	ug/l	1.92	#VALUE!		440.02	423.35	440.02
75 As # 2	0.001204	0.001204	ug/l	636.38	#VALUE!		11.00	15.67	14.00
78 Se # 1	-0.03006	-0.03006	ug/l	17.99	#VALUE!		11.00	12.00	9.67
88 Sr # 3	0.002685	0.002685	ug/l	72.33	#VALUE!		173.34	183.34	253.34
95 Mo # 3	0.04274	0.04274	ug/l	25.83	#VALUE!		270.01	283.34	213.34
107 Ag # 3	-0.0002914	-0.0002914	ug/l	338.06	#VALUE!		120.00	100.00	103.34
111 Cd # 3	0.003981	0.003981	ug/l	88.60	#VALUE!		23.27	9.94	9.95
118 Sn # 3	0.01515	0.01515	ug/l	40.22	#VALUE!		710.03	723.37	790.04
121 Sb # 3	0.02029	0.02029	ug/l	16.92	#VALUE!		233.34	176.67	190.01
137 Ba # 3	0.00271	0.00271	ug/l	100.55	#VALUE!		46.67	33.33	53.33
202 Hg # 3	0.01857	0.01857	ug/l	17.82	#VALUE!		163.00	143.00	165.67
205 Tl # 3	-0.002798	-0.002798	ug/l	38.74	#VALUE!		83.34	96.67	133.34
208 Pb # 3	-0.02014	-0.02014	ug/l	10.75	#VALUE!		650.03	500.02	620.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	372114.09	0.24	442436.88	84.1	60 - 125		373136.44	371812.41	371393.44
45 Sc # 1	370215.94	0.15	456299.72	81.1	60 - 125		369750.97	370048.94	370847.91
45 Sc # 3	633403.25	1.29	765061.25	82.8	60 - 125		635422.75	624438.88	640347.94
74 Ge # 1	130664.28	0.57	153441.28	85.2	60 - 125		131029.52	129813.05	131150.28
74 Ge # 2	40557.19	0.13	47804.94	84.8	60 - 125		40521.59	40530.45	40619.52
74 Ge # 3	197179.66	1.65	224564.78	87.8	60 - 125		199080.83	193421.64	199036.50
89 Y # 3	1162704.30	0.47	1302847.50	89.2	60 - 125		1168665.30	1157944.50	1161502.90
115 In # 3	1197794.60	1.28	1366177.60	87.7	60 - 125		1208024.00	1180163.80	1205196.50
159 Tb # 3	1693615.40	2.25	2052817.90	82.5	60 - 125		1711910.60	1649790.10	1719145.40
209 Bi # 3	1056496.30	1.05	1405468.50	75.2	60 - 125		1060859.10	1043921.10	1064708.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\047SMPL.D\047SMPL.D#
 Date Acquired: Aug 26 2014 01:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104161-a-8-a
 Misc Info: DW
 Vial Number: 4301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0001209	0.0001209	ug/l	1001.70	100.00		0.00	3.33	0.00
11 B #3	7.621	7.621	ug/l	0.16	1800.00		11640.39	11557.04	11733.81
23 Na #1	9976	9976	ug/l	0.31	81000.00		29624132.00	29738160.00	29675776.00
24 Mg #1	5655	5655	ug/l	0.28	81000.00		11767522.00	11760006.00	11777915.00
27 Al #1	5.549	5.549	ug/l	5.74	81000.00		16036.50	14844.92	14482.98
39 K #2	1414	1414	ug/l	1.64	81000.00		454224.72	450818.47	459003.75
40 Ca #1	10820	10820	ug/l	0.72	81000.00		62406624.00	61933464.00	61269652.00
47 Ti #3	0.8857	0.8857	ug/l	5.75	1620.00		920.06	1023.39	980.05
51 V #2	2.596	2.596	ug/l	2.56	1800.00		6402.25	6692.37	6520.07
52 Cr #2	0.6579	0.6579	ug/l	2.08	1800.00		2222.37	2243.49	2267.93
55 Mn #3	0.4218	0.4218	ug/l	3.58	1800.00		8548.85	8685.57	9162.45
56 Fe #1	10.87	10.87	ug/l	0.15	81000.00		84958.06	84903.34	84838.32
59 Co #3	0.01782	0.01782	ug/l	9.48	1800.00		283.34	293.34	330.01
60 Ni #2	0.2575	0.2575	ug/l	4.24	1800.00		326.67	342.23	315.56
63 Cu #2	2.08	2.08	ug/l	1.78	1800.00		6620.11	6599.02	6713.49
66 Zn #3	6.402	6.402	ug/l	1.77	1800.00		12928.22	13175.02	12924.86
75 As #2	0.3207	0.3207	ug/l	12.75	100.00		102.00	126.00	120.67
78 Se #1	0.01813	0.01813	ug/l	35.70	100.00		20.67	23.00	23.67
88 Sr #3	62.77	62.77	ug/l	0.87	1800.00		1451350.60	1450883.10	1464660.40
95 Mo #3	0.1072	0.1072	ug/l	5.06	1800.00		513.36	476.69	493.36
107 Ag #3	-0.003146	-0.003146	ug/l	47.11	100.00		63.34	90.00	90.00
111 Cd #3	0.004852	0.004852	ug/l	63.19	100.00		23.22	9.90	16.56
118 Sn #3	-0.02816	-0.02816	ug/l	7.68	1800.00		440.02	456.69	480.02
121 Sb #3	0.02841	0.02841	ug/l	9.19	100.00		253.34	260.01	300.01
137 Ba #3	12.35	12.35	ug/l	0.73	1800.00		44859.77	44916.71	45371.37
202 Hg #3	0.0162	0.0162	ug/l	32.84	5.00		147.67	169.67	143.67
205 Tl #3	-0.00231	-0.00231	ug/l	26.52	20.00		120.00	130.00	103.34
208 Pb #3	0.06315	0.06315	ug/l	2.94	1800.00		3203.56	3203.56	3356.92
232 Th #3	-0.0002606	-0.0002606	ug/l	285.46	#VALUE!		186.67	226.68	210.01
238 U #3	0.03834	0.03834	ug/l	4.31	#VALUE!		1330.11	1190.09	1243.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	370733.50	0.87	442436.88	83.8	60 - 125		370958.91	367406.97	373834.63
45 Sc #1	385730.81	0.21	456299.72	84.5	60 - 125		386346.78	386049.31	384796.34
45 Sc #3	672051.06	0.76	765061.25	87.8	60 - 125		668073.63	670273.00	677806.69
74 Ge #1	134418.72	0.49	153441.28	87.6	60 - 125		134071.02	134011.59	135173.53
74 Ge #2	42075.38	0.79	47804.94	88.0	60 - 125		42350.14	42169.64	41706.36
74 Ge #3	205755.77	0.71	224564.78	91.6	60 - 125		205312.22	204557.11	207397.98
89 Y #3	1193611.50	1.28	1302847.50	91.6	60 - 125		1178378.00	1193486.80	1208969.80
115 In #3	1222668.60	1.34	1366177.60	89.5	60 - 125		1214025.30	1212411.50	1241569.10
159 Tb #3	1727688.90	0.92	2052817.90	84.2	60 - 125		1715799.10	1721601.00	1745666.50
209 Bi #3	1031464.90	1.39	1405468.50	73.4	60 - 125		1046436.40	1017889.60	1030068.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\048SMPL.D\048SMPL.D#
 Date Acquired: Aug 26 2014 01:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104511-a-2-c ms
 Misc Info: 3010 1/5
 Vial Number: 4302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.944	1.944	ug/l	1.69	100.00		12077.34	12294.09	12611.00
11 B # 3	6.432	6.432	ug/l	3.92	1800.00		41027.06	39149.77	40091.79
23 Na # 1	2885	2885	ug/l	0.94	81000.00		32414386.00	32036592.00	32158516.00
24 Mg # 1	261.9	261.9	ug/l	1.17	81000.00		2044267.50	2039574.10	2017258.80
27 Al # 1	23.06	23.06	ug/l	1.45	81000.00		219028.80	218343.22	215145.55
39 K # 2	192.9	192.9	ug/l	0.26	81000.00		254619.38	255013.28	256501.56
40 Ca # 1	1132	1132	ug/l	1.04	81000.00		24357070.00	24151450.00	24079856.00
47 Ti # 3	2.069	2.069	ug/l	1.99	1620.00		7858.52	7995.29	7668.44
51 V # 2	2.066	2.066	ug/l	0.81	1800.00		18601.54	18389.13	18618.21
52 Cr # 2	2.014	2.014	ug/l	0.52	1800.00		21882.87	22146.51	22182.12
55 Mn # 3	30.24	30.24	ug/l	0.60	1800.00		1907887.00	1908452.30	1899027.50
56 Fe # 1	581.8	581.8	ug/l	0.28	81000.00		16111123.00	16222600.00	16234540.00
59 Co # 3	2.233	2.233	ug/l	0.58	1800.00		107252.19	106260.54	105954.97
60 Ni # 2	4.086	4.086	ug/l	0.21	1800.00		15933.62	15933.58	16015.87
63 Cu # 2	2.005	2.005	ug/l	0.52	1800.00		22520.46	22809.72	22678.43
66 Zn # 3	26.69	26.69	ug/l	0.92	1800.00		188333.45	186666.53	185019.23
75 As # 2	2.095	2.095	ug/l	0.92	100.00		2393.50	2441.50	2409.50
78 Se # 1	1.978	1.978	ug/l	0.63	100.00		1791.43	1765.09	1777.42
88 Sr # 3	2.847	2.847	ug/l	0.15	1800.00		234700.05	231426.95	233277.39
95 Mo # 3	2.188	2.188	ug/l	2.49	1800.00		28710.36	27942.53	27488.60
107 Ag # 3	2.664	2.664	ug/l	0.94	100.00		95263.75	94614.46	94001.04
111 Cd # 3	2.053	2.053	ug/l	1.50	100.00		15631.00	15948.17	15554.60
118 Sn # 3	2.02	2.02	ug/l	1.21	1800.00		50019.39	5105.79	51363.34
121 Sb # 3	2.088	2.088	ug/l	1.46	100.00		60890.94	60352.49	59479.43
137 Ba # 3	4.739	4.739	ug/l	0.81	1800.00		60896.31	60059.70	60421.02
202 Hg # 3	0.3381	0.3381	ug/l	0.71	5.00		3634.42	3691.43	3648.76
205 Tl # 3	0.397	0.397	ug/l	1.01	20.00		33402.54	32888.14	33195.57
208 Pb # 3	2.018	2.018	ug/l	0.42	1800.00		230185.13	229836.92	229173.69
232 Th # 3	2.125	2.125	ug/l	1.23	#VALUE!		249882.34	247914.30	250180.20
238 U # 3	2.013	2.013	ug/l	0.77	#VALUE!		245825.88	245656.58	244622.39

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	1465120.80	0.83	442436.88	331.1	60 - 125	IS I	1451303.30	1473861.50	1470197.60
45 Sc # 1	1437293.80	0.47	456299.72	315.0	60 - 125	IS I	1431421.80	1435819.30	1444640.30
45 Sc # 3	2456883.30	0.77	765061.25	321.1	60 - 125	IS I	2477353.50	2453250.30	2440046.00
74 Ge # 1	498669.78	0.24	153441.28	325.0	60 - 125	IS I	498995.81	497352.28	499661.19
74 Ge # 2	148631.17	0.26	47804.94	310.9	60 - 125	IS I	148208.17	148728.89	148956.45
74 Ge # 3	733250.06	0.44	224564.78	326.5	60 - 125	IS I	735686.81	729620.75	734442.50
89 Y # 3	4206166.00	0.74	1302847.50	322.8	60 - 125	IS I	4231468.00	4171175.00	4215854.50
115 In # 3	4271762.00	0.29	1366177.60	312.7	60 - 125	IS I	4262871.00	4266727.00	4285687.50
159 Tb # 3	6057999.50	0.23	2052817.90	295.1	60 - 125	IS I	6042435.00	6068237.50	6063325.50
209 Bi # 3	3913258.80	0.76	1405468.50	278.4	60 - 125	IS I	3889532.00	3946639.00	3903604.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 10 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\049SMPL.D\049SMPL.D#
 Date Acquired: Aug 26 2014 01:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104511-a-2-d msd
 Misc Info: 3010 1/5
 Vial Number: 4303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	1.869	1.869	ug/l	1.14	100.00		11590.36	11530.36	11880.59
11 B # 3	6.402	6.402	ug/l	0.79	1800.00		39390.33	39163.06	39433.65
23 Na # 1	2854	2854	ug/l	0.49	81000.00		30605052.00	30909226.00	30907900.00
24 Mg # 1	260.8	260.8	ug/l	0.83	81000.00		1949450.40	1970678.30	1956388.80
27 Al # 1	22.89	22.89	ug/l	0.64	81000.00		206875.41	209861.09	209759.45
39 K # 2	189.3	189.3	ug/l	0.45	81000.00		244531.06	244105.55	245462.81
40 Ca # 1	1120	1120	ug/l	0.48	81000.00		22989292.00	23224616.00	23235510.00
47 Ti # 3	2.114	2.114	ug/l	1.56	1620.00		7645.10	7931.91	7791.79
51 V # 2	2.038	2.038	ug/l	1.87	1800.00		17938.67	17459.31	17997.61
52 Cr # 2	2.001	2.001	ug/l	0.77	1800.00		21437.94	21297.78	21294.42
55 Mn # 3	30.14	30.14	ug/l	0.68	1800.00		1858963.30	1844620.00	1847289.80
56 Fe # 1	574.7	574.7	ug/l	0.59	81000.00		15316205.00	15535443.00	15548856.00
59 Co # 3	2.204	2.204	ug/l	0.27	1800.00		102415.16	102157.03	102659.73
60 Ni # 2	4.063	4.063	ug/l	1.09	1800.00		15573.29	15349.76	15413.16
63 Cu # 2	1.951	1.951	ug/l	0.64	1800.00		21531.48	21562.67	21415.82
66 Zn # 3	26.46	26.46	ug/l	1.00	1800.00		181203.47	180535.75	179278.95
75 As # 2	2.072	2.072	ug/l	0.73	100.00		2333.16	2327.49	2315.15
78 Se # 1	1.999	1.999	ug/l	2.47	100.00		1731.42	1785.43	1702.75
88 Sr # 3	2.837	2.837	ug/l	1.74	1800.00		228984.81	223033.59	227664.16
95 Mo # 3	2.146	2.146	ug/l	1.40	1800.00		26790.53	27398.27	27007.75
107 Ag # 3	2.81	2.81	ug/l	1.16	100.00		98968.23	97479.49	97923.45
111 Cd # 3	2.034	2.034	ug/l	1.68	100.00		15534.76	15067.53	15314.44
118 Sn # 3	1.998	1.998	ug/l	0.78	1800.00		49591.41	49277.17	49434.22
121 Sb # 3	2.047	2.047	ug/l	0.38	100.00		57596.59	58011.00	58666.60
137 Ba # 3	4.706	4.706	ug/l	0.56	1800.00		58468.05	59166.39	59518.00
202 Hg # 3	0.3325	0.3325	ug/l	1.48	5.00		3563.07	3487.06	3557.40
205 Tl # 3	0.3882	0.3882	ug/l	1.95	20.00		31047.80	32410.45	32036.34
208 Pb # 3	2.009	2.009	ug/l	1.45	1800.00		223779.84	226871.30	222520.33
232 Th # 3	2.106	2.106	ug/l	1.19	#VALUE!		241700.55	241447.52	242106.97
238 U # 3	1.996	1.996	ug/l	0.37	#VALUE!		237456.92	239851.84	236659.73

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	1442607.50	0.61	442436.88	326.1	60 - 125	IS I	1434381.40	1441544.10	1451896.90
45 Sc # 1	1390115.50	0.64	456299.72	304.6	60 - 125	IS I	1383138.80	1387091.00	1400116.60
45 Sc # 3	2391663.30	0.74	765061.25	312.6	60 - 125	IS I	2372718.80	2394793.00	2407478.30
74 Ge # 1	482948.88	0.55	153441.28	314.7	60 - 125	IS I	479887.34	484452.81	484506.41
74 Ge # 2	144634.02	0.35	47804.94	302.6	60 - 125	IS I	144050.84	144868.48	144982.73
74 Ge # 3	714609.50	0.49	224564.78	318.2	60 - 125	IS I	713399.69	711845.00	718583.88
89 Y # 3	4101919.00	0.40	1302847.50	314.8	60 - 125	IS I	4084079.00	4116324.00	4105354.00
115 In # 3	4201253.50	0.66	1366177.60	307.5	60 - 125	IS I	4183843.30	4186779.00	4233137.50
159 Tb # 3	5944088.50	0.67	2052817.90	289.6	60 - 125	IS I	5908418.00	5936658.50	5987190.00
209 Bi # 3	3827979.50	1.06	1405468.50	272.4	60 - 125	IS I	3817732.50	3872700.80	3793505.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 10 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Fail

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\050_QCS.D\050_QCS.D#
 Date Acquired: Aug 26 2014 01:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRT
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.11 ug/l	14.28	0.10 69.5 - 130	
11 B	19.14 ug/l	0.53	20.00 69.5 - 130	
23 Na	43.26 ug/l	0.85	50.00 69.5 - 130	
24 Mg	56.30 ug/l	0.16	50.00 69.5 - 130	
27 Al	10.91 ug/l	1.70	10.00 69.5 - 130	
39 K	41.92 ug/l	5.87	50.00 69.5 - 130	
40 Ca	57.26 ug/l	0.45	50.00 69.5 - 130	
47 Ti	0.99 ug/l	6.92	1.00 69.5 - 130	
51 V	0.98 ug/l	6.83	1.00 69.5 - 130	
52 Cr	1.01 ug/l	3.56	1.00 69.5 - 130	
55 Mn	1.01 ug/l	0.79	1.00 69.5 - 130	
56 Fe	23.29 ug/l	0.95	20.00 69.5 - 130	
59 Co	0.10 ug/l	1.07	0.10 69.5 - 130	
60 Ni	1.01 ug/l	5.68	1.00 69.5 - 130	
63 Cu	0.93 ug/l	6.68	1.00 69.5 - 130	
66 Zn	3.78 ug/l	4.14	4.00 69.5 - 130	
75 As	0.51 ug/l	6.93	0.50 69.5 - 130	
78 Se	0.43 ug/l	2.56	0.50 69.5 - 130	
88 Sr	0.18 ug/l	1.83	0.20 69.5 - 130	
95 Mo	0.95 ug/l	2.29	1.00 69.5 - 130	
107 Ag	0.20 ug/l	3.70	0.20 69.5 - 130	
111 Cd	0.08 ug/l	14.36	0.10 69.5 - 130	
118 Sn	0.92 ug/l	2.28	1.00 69.5 - 130	
121 Sb	0.94 ug/l	2.92	1.00 69.5 - 130	
137 Ba	0.97 ug/l	2.45	1.00 69.5 - 130	
202 Hg	0.15 ug/l	5.56	0.16 69.5 - 130	
205 Tl	0.18 ug/l	2.10	0.20 69.5 - 130	
208 Pb	0.25 ug/l	1.03	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	384531.44	0.47	442436.88	86.9	60 - 125		
45 Sc	385484.75	0.16	456299.72	84.5	60 - 125		
45 Sc	677448.56	3.20	765061.25	88.5	60 - 125		
74 Ge	134096.20	0.06	153441.28	87.4	60 - 125		
74 Ge	40033.93	4.19	47804.94	83.7	60 - 125		
74 Ge	202953.31	0.49	224564.78	90.4	60 - 125		
89 Y	1216236.50	3.10	1302847.50	93.4	60 - 125		
115 In	1246569.80	1.27	1366177.60	91.2	60 - 125		
159 Tb	1743906.10	2.21	2052817.90	85.0	60 - 125		
209 Bi	1111615.30	2.77	1405468.50	79.1	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\051_CCV.D\051_CCV.D#
 Date Acquired: Aug 26 2014 02:03 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.08 ug/l	0.58	50.00	89.5 - 110		81314.82	82165.04	82379.22
11 B	92.91 ug/l	0.66	100.00	89.5 - 110		124272.81	124558.07	123243.54
23 Na	5164 ug/l	0.73	5000.00	89.5 - 110		15422743.00	15524210.00	15455010.00
24 Mg	5099 ug/l	0.54	5000.00	89.5 - 110		10652095.00	10660842.00	10653724.00
27 Al	528.9 ug/l	0.66	500.00	89.5 - 110		1311600.40	1316127.10	1311791.90
39 K	4999 ug/l	1.74	5000.00	89.5 - 110		1540521.40	1566472.00	1584132.90
40 Ca	5301 ug/l	0.46	5000.00	89.5 - 110		30358852.00	30484090.00	30511010.00
47 Ti	51.55 ug/l	0.54	50.00	89.5 - 110		52009.25	51732.04	51420.88
51 V	49.48 ug/l	0.95	50.00	89.5 - 110		118940.09	119897.33	120374.99
52 Cr	48.74 ug/l	0.59	50.00	89.5 - 110		142543.05	143186.91	143113.31
55 Mn	502.3 ug/l	2.10	500.00	89.5 - 110		8809025.00	8860082.00	8965535.00
56 Fe	5399 ug/l	0.45	5000.00	89.5 - 110		40549124.00	40314212.00	40500996.00
59 Co	49.37 ug/l	1.39	50.00	89.5 - 110		661604.56	658576.06	661976.38
60 Ni	50.56 ug/l	0.53	50.00	89.5 - 110		55309.93	54486.26	54966.45
63 Cu	48.99 ug/l	0.63	50.00	89.5 - 110		145727.70	146318.14	146536.09
66 Zn	48.25 ug/l	0.50	50.00	89.5 - 110		94602.36	95232.96	93486.70
75 As	50.43 ug/l	0.41	50.00	89.5 - 110		16012.66	15969.29	16042.37
78 Se	50.27 ug/l	0.54	50.00	89.5 - 110		11838.19	11758.47	11841.19
88 Sr	48.97 ug/l	1.37	50.00	89.5 - 110		1148282.00	1174699.90	1156679.80
95 Mo	50.21 ug/l	0.85	50.00	89.5 - 110		181849.70	184382.34	184610.39
107 Ag	48.42 ug/l	0.99	50.00	89.5 - 110		493334.69	494808.84	496530.00
111 Cd	48.35 ug/l	1.09	50.00	89.5 - 110		106859.03	106113.79	107281.38
118 Sn	49.05 ug/l	1.49	50.00	89.5 - 110		339110.63	343587.31	340073.06
121 Sb	48.24 ug/l	0.71	50.00	89.5 - 110		399104.31	401140.41	403933.28
137 Ba	49.04 ug/l	1.27	50.00	89.5 - 110		179955.44	180928.23	180372.67
202 Hg	2.498 ug/l	1.00	2.50	89.5 - 110		7031.23	7124.94	7141.28
205 Tl	9.306 ug/l	0.57	10.00	89.5 - 110		219652.20	221714.23	220214.58
208 Pb	46.9 ug/l	1.07	50.00	89.5 - 110		1510879.30	1513253.30	1517263.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	385980.16	0.62	442436.88	87.2	60 - 125		383926.50	388585.81	385428.13
45 Sc	387326.66	0.52	456299.72	84.9	60 - 125		386592.56	385779.78	389607.63
45 Sc	680583.94	0.59	765061.25	89.0	60 - 125		680815.69	684509.06	676427.00
74 Ge	135271.22	0.67	153441.28	88.2	60 - 125		134814.83	134689.95	136308.89
74 Ge	41723.48	0.35	47804.94	87.3	60 - 125		41891.26	41646.26	41632.91
74 Ge	206234.59	1.20	224564.78	91.8	60 - 125		207753.69	207581.72	203368.36
89 Y	1219108.90	0.71	1302847.50	93.6	60 - 125		1212533.10	1215877.10	1228916.00
115 In	1234298.60	1.31	1366177.60	90.3	60 - 125		1220855.90	1229831.50	1252208.40
159 Tb	1749298.80	1.05	2052817.90	85.2	60 - 125		1737005.80	1770314.50	1740575.80
209 Bi	1088502.90	3.49	1405468.50	77.4	60 - 125		1063495.90	1069756.30	1132256.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\052_CCB.D\052_CCB.D#
 Date Acquired: Aug 26 2014 02:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.004841	0.004841	ug/l	24.25	#VALUE!		6.67	10.00	10.00
11 B #3	1.772	1.772	ug/l	7.04	#VALUE!		4507.30	4393.94	4207.23
23 Na #1	-10.41	-10.41	ug/l	1.58	#VALUE!		49844.89	50917.73	50787.48
24 Mg #1	0.2039	0.2039	ug/l	31.00	#VALUE!		1480.10	1256.74	1273.41
27 Al #1	0.05968	0.05968	ug/l	65.62	#VALUE!		1626.82	1453.42	1533.43
39 K #2	-10.91	-10.91	ug/l	8.92	#VALUE!		8552.19	7951.90	8365.40
40 Ca #1	0.9854	0.9854	ug/l	6.45	#VALUE!		27754.24	27423.85	27153.36
47 Ti #3	-0.06289	-0.06289	ug/l	12.58	#VALUE!		26.67	40.00	40.00
51 V #2	-0.0171	-0.0171	ug/l	16.74	#VALUE!		170.00	171.11	161.11
52 Cr #2	-0.01616	-0.01616	ug/l	33.63	#VALUE!		262.23	250.00	234.45
55 Mn #3	0.03697	0.03697	ug/l	10.74	#VALUE!		1870.15	2000.16	2003.51
56 Fe #1	1.197	1.197	ug/l	1.00	#VALUE!		12604.68	12624.57	12431.16
59 Co #3	-1.16E-005	-1.16E-005	ug/l	2663.50	#VALUE!		60.00	66.67	60.00
60 Ni #2	-0.004095	-0.004095	ug/l	70.89	#VALUE!		41.11	43.33	37.78
63 Cu #2	-0.07938	-0.07938	ug/l	2.68	#VALUE!		151.11	163.34	160.00
66 Zn #3	-0.09683	-0.09683	ug/l	4.65	#VALUE!		396.68	383.35	386.68
75 As #2	0.00355	0.00355	ug/l	35.86	#VALUE!		14.33	14.00	15.00
78 Se #1	-0.03696	-0.03696	ug/l	33.71	#VALUE!		12.67	7.00	9.00
88 Sr #3	0.002773	0.002773	ug/l	23.69	#VALUE!		203.34	196.67	230.01
95 Mo #3	0.03634	0.03634	ug/l	19.79	#VALUE!		256.68	206.67	250.01
107 Ag #3	-0.001157	-0.001157	ug/l	62.33	#VALUE!		96.67	96.67	110.00
111 Cd #3	0.002329	0.002329	ug/l	199.57	#VALUE!		19.94	-0.05	13.28
118 Sn #3	0.014	0.014	ug/l	18.41	#VALUE!		736.70	763.37	743.37
121 Sb #3	0.02577	0.02577	ug/l	4.40	#VALUE!		240.01	256.68	250.01
137 Ba #3	0.003414	0.003414	ug/l	109.87	#VALUE!		33.33	60.00	50.00
202 Hg #3	0.02189	0.02189	ug/l	34.03	#VALUE!		191.67	156.67	158.00
205 Tl #3	-0.001675	-0.001675	ug/l	35.31	#VALUE!		143.34	116.67	136.67
208 Pb #3	0.00208	0.00208	ug/l	1951.90	#VALUE!		523.36	2782.70	600.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	379182.56	0.34	442436.88	85.7	60 - 125		379203.00	377875.72	380468.94
45 Sc #1	379920.94	0.67	456299.72	83.3	60 - 125		378517.63	382843.34	378401.81
45 Sc #3	656212.63	0.39	765061.25	85.8	60 - 125		654716.44	654722.81	659198.56
74 Ge #1	133907.56	0.48	153441.28	87.3	60 - 125		133759.14	134607.22	133356.28
74 Ge #2	41023.81	0.81	47804.94	85.8	60 - 125		40855.61	40811.14	41404.68
74 Ge #3	200107.08	0.69	224564.78	89.1	60 - 125		199078.28	199562.91	201680.05
89 Y #3	1188269.50	1.46	1302847.50	91.2	60 - 125		1171658.80	1186815.50	1206334.30
115 In #3	1221469.60	0.56	1366177.60	89.4	60 - 125		1223518.30	1213866.90	1227024.00
159 Tb #3	1721421.00	0.66	2052817.90	83.9	60 - 125		1713917.30	1715916.60	1734429.10
209 Bi #3	1075034.00	0.70	1405468.50	76.5	60 - 125		1067272.00	1075593.80	1082236.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\053SMPL.D\053SMPL.D#
 Date Acquired: Aug 26 2014 02:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-5-a
 Misc Info: 3050 1/20
 Vial Number: 4304
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	5.7	1.425	ug/l	4.54	100.00		2273.53	2513.56	2346.87
11 B # 3	7.612	1.903	ug/l	4.63	1800.00		4620.67	4520.65	4707.34
23 Na # 1	66.48	16.62	ug/l	2.76	81000.00		145645.83	146193.05	145424.02
24 Mg # 1	2622.4	655.6	ug/l	0.34	81000.00		1497624.10	1523755.40	1518748.10
27 Al # 1	31272	7818	ug/l	0.80	81000.00		21334094.00	21483330.00	21400990.00
39 K # 2	1677.6	419.4	ug/l	3.55	81000.00		145999.48	144924.30	144215.34
40 Ca # 1	14064	3516	ug/l	0.26	81000.00		22066454.00	22443012.00	22402340.00
47 Ti # 3	223.72	55.93	ug/l	2.59	1620.00		61587.88	61601.22	61126.52
51 V # 2	190.4	47.6	ug/l	4.56	1800.00		116371.34	118330.70	118124.93
52 Cr # 2	172.32	43.08	ug/l	4.69	1800.00		127922.16	130643.41	128513.27
55 Mn # 3	7316	1829	ug/l	0.43	1800.00	Fail	31847332.00	32300900.00	31845842.00
56 Fe # 1	169000	42250	ug/l	0.77	81000.00		347540900.00	347937860.00	352964130.00
59 Co # 3	69.68	17.42	ug/l	0.12	1800.00		230605.16	232963.52	228875.72
60 Ni # 2	34.96	8.74	ug/l	3.73	1800.00		9723.72	9728.19	9747.09
63 Cu # 2	42.84	10.71	ug/l	4.58	1800.00		32652.21	33215.46	32983.82
66 Zn # 3	446.8	111.7	ug/l	0.98	1800.00		213609.53	217428.88	215922.50
75 As # 2	72.68	18.17	ug/l	3.72	100.00		5894.63	5896.96	5909.63
78 Se # 1	2.132	0.533	ug/l	4.53	100.00		147.33	150.67	139.00
88 Sr # 3	29.068	7.267	ug/l	0.67	1800.00		209107.44	209953.33	210348.78
95 Mo # 3	6.88	1.72	ug/l	1.50	1800.00		6377.99	6314.64	6438.02
107 Ag # 3	0.35648	0.08912	ug/l	4.39	100.00		976.72	1056.73	1033.39
111 Cd # 3	1.054	0.2635	ug/l	7.62	100.00		535.29	615.31	608.61
118 Sn # 3	9.108	2.277	ug/l	1.78	1800.00		16331.41	16264.73	16641.66
121 Sb # 3	1.6164	0.4041	ug/l	3.35	100.00		3297.06	3533.79	3343.75
137 Ba # 3	354.04	88.51	ug/l	0.34	1800.00		324085.13	326032.03	324479.13
202 Hg # 3	0.1902	0.04755	ug/l	41.68	5.00		238.01	193.34	303.04
205 Tl # 3	0.896	0.224	ug/l	3.08	20.00		5314.38	5731.24	5497.79
208 Pb # 3	221.04	55.26	ug/l	0.84	1800.00		1786527.50	1792395.00	1805972.50
232 Th # 3	15.672	3.918	ug/l	3.53	#VALUE!		128051.56	129389.80	128597.77
238 U # 3	4.056	1.014	ug/l	2.87	#VALUE!		34315.95	34746.67	34897.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	385641.41	0.63	442436.88	87.2	60 - 125		383602.31	388313.38	385008.47
45 Sc # 1	427582.75	1.02	456299.72	93.7	60 - 125		422609.78	429407.72	430730.84
45 Sc # 3	745548.69	2.59	765061.25	97.4	60 - 125		727143.81	765633.63	743868.50
74 Ge # 1	137434.30	0.23	153441.28	89.6	60 - 125		137264.25	137806.52	137232.11
74 Ge # 2	42645.20	3.71	47804.94	89.2	60 - 125		44377.76	41272.30	42285.55
74 Ge # 3	204099.11	1.00	224564.78	90.9	60 - 125		203876.88	206252.34	202168.14
89 Y # 3	1484803.50	0.83	1302847.50	114.0	60 - 125		1472718.60	1497267.00	1484425.10
115 In # 3	1231289.00	0.51	1366177.60	90.1	60 - 125		1231216.30	1237561.60	1225088.90
159 Tb # 3	1760684.80	0.81	2052817.90	85.8	60 - 125		1746593.40	1775086.40	1760374.40
209 Bi # 3	1097783.30	3.60	1405468.50	78.1	60 - 125		1067674.00	1083138.60	1142537.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\054SMPL.D\054SMPL.D#
 Date Acquired: Aug 26 2014 02:25 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-6-a
 Misc Info: 3050 1/20
 Vial Number: 4305
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	4.6	1.15	ug/l	2.83	100.00		1823.47	1823.47	1726.79
11 B #3	4.42	1.105	ug/l	2.13	1800.00		3387.04	3310.36	3297.03
23 Na #1	-0.538	-0.1345	ug/l	93.53	81000.00		84903.21	85583.01	83858.84
24 Mg #1	1374.4	343.6	ug/l	0.75	81000.00		741976.31	751647.56	732682.88
27 Al #1	34812	8703	ug/l	0.51	81000.00		22250676.00	22455922.00	22145876.00
39 K #2	1366	341.5	ug/l	1.40	81000.00		109900.98	109773.87	108057.70
40 Ca #1	5572	1393	ug/l	0.18	81000.00		8323530.00	8293306.50	8210497.50
47 Ti #3	159.92	39.98	ug/l	0.96	1620.00		40210.17	39916.35	39268.34
51 V #2	189.28	47.32	ug/l	0.51	1800.00		106481.77	106129.57	105957.70
52 Cr #2	208.48	52.12	ug/l	0.69	1800.00		142620.80	141479.50	141039.61
55 Mn #3	5648	1412	ug/l	0.62	1800.00		23112126.00	22981330.00	22660742.00
56 Fe #1	157760	39440	ug/l	0.54	81000.00		307507810.00	304439300.00	303245280.00
59 Co #3	66.68	16.67	ug/l	1.02	1800.00		208297.05	205065.92	201269.78
60 Ni #2	34.128	8.532	ug/l	0.31	1800.00		8674.31	8563.16	8645.43
63 Cu #2	20.456	5.114	ug/l	2.18	1800.00		14732.62	14530.23	14174.41
66 Zn #3	104.44	26.11	ug/l	0.80	1800.00		47364.74	47394.92	46723.29
75 As #2	65.84	16.46	ug/l	1.97	100.00		4892.00	4903.67	4760.96
78 Se #1	1.3236	0.3309	ug/l	7.78	100.00		85.00	94.67	94.67
88 Sr #3	14.716	3.679	ug/l	1.44	1800.00		98070.55	95065.05	94927.59
95 Mo #3	4.812	1.203	ug/l	5.21	1800.00		4494.03	4183.95	4117.26
107 Ag #3	0.10192	0.02548	ug/l	21.33	100.00		413.35	326.68	323.35
111 Cd #3	0.21692	0.05423	ug/l	20.95	100.00		145.68	109.08	102.43
118 Sn #3	3.8304	0.9576	ug/l	3.46	1800.00		6944.94	7161.69	6648.12
121 Sb #3	1.2044	0.3011	ug/l	4.20	100.00		2446.92	2493.60	2283.55
137 Ba #3	196.72	49.18	ug/l	1.20	1800.00		172886.44	171362.53	169968.50
202 Hg #3	0.07964	0.01991	ug/l	33.59	5.00		182.00	147.67	157.67
205 Tl #3	0.4956	0.1239	ug/l	4.91	20.00		3103.73	3150.41	2870.35
208 Pb #3	97.72	24.43	ug/l	1.22	1800.00		780666.00	770487.06	766274.38
232 Th #3	18.82	4.705	ug/l	0.94	#VALUE!		149527.13	148132.48	148264.97
238 U #3	3.7652	0.9413	ug/l	2.20	#VALUE!		31586.51	30574.46	30698.05

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	359770.66	0.59	442436.88	81.3	60 - 125		362221.91	358718.94	358371.13
45 Sc #1	399849.88	0.74	456299.72	87.6	60 - 125		401604.84	401521.75	396422.97
45 Sc #3	674851.25	0.49	765061.25	88.2	60 - 125		678638.25	672588.75	673326.75
74 Ge #1	128929.10	0.58	153441.28	84.0	60 - 125		129181.82	129521.17	128084.32
74 Ge #2	38683.14	0.45	47804.94	80.9	60 - 125		38758.86	38482.68	38807.89
74 Ge #3	189322.67	0.87	224564.78	84.3	60 - 125		191214.03	188550.64	188203.30
89 Y #3	1341063.30	0.42	1302847.50	102.9	60 - 125		1347504.80	1336761.10	1338924.00
115 In #3	1169186.50	0.78	1366177.60	85.6	60 - 125		1163503.40	1179641.80	1164414.80
159 Tb #3	1712093.80	0.54	2052817.90	83.4	60 - 125		1706511.60	1722700.90	1707068.80
209 Bi #3	1055531.10	0.42	1405468.50	75.1	60 - 125		1050467.10	1058184.60	1057941.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\055SMPL.D\055SMPL.D#
 Date Acquired: Aug 26 2014 02:33 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-7-a
 Misc Info: 3050 1/20
 Vial Number: 4306
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.904	1.226	ug/l	7.26	100.00		1890.14	1940.15	1690.12
11 B # 3	4.324	1.081	ug/l	6.99	1800.00		3110.33	3257.04	3180.35
23 Na # 1	6.58	1.645	ug/l	369.91	81000.00		81776.55	79554.20	81271.10
24 Mg # 1	1762.4	440.6	ug/l	21.86	81000.00		872159.06	825124.75	855511.44
27 Al # 1	39068	9767	ug/l	21.66	81000.00		22744450.00	21733726.00	22646442.00
39 K # 2	1396	349	ug/l	1.13	81000.00		107410.34	106498.95	107967.25
40 Ca # 1	7264	1816	ug/l	21.20	81000.00		9823833.00	9452420.00	9700251.00
47 Ti # 3	165.44	41.36	ug/l	1.09	1620.00		39639.18	40147.72	39689.00
51 V # 2	215.68	53.92	ug/l	0.83	1800.00		116114.65	116676.18	116679.51
52 Cr # 2	204.32	51.08	ug/l	1.09	1800.00		133992.31	132586.58	134693.52
55 Mn # 3	4912	1228	ug/l	0.52	1800.00		19308660.00	19166990.00	19196572.00
56 Fe # 1	188960	47240	ug/l	22.10	81000.00		332963650.00	315366620.00	331898530.00
59 Co # 3	63.48	15.87	ug/l	0.69	1800.00		189168.02	186895.33	188458.09
60 Ni # 2	32.62	8.155	ug/l	1.79	1800.00		7887.30	7882.85	8061.81
63 Cu # 2	20.924	5.231	ug/l	0.78	1800.00		14305.61	14164.39	14303.37
66 Zn # 3	126.12	31.53	ug/l	0.80	1800.00		54604.92	55347.33	54594.87
75 As # 2	74.28	18.57	ug/l	0.11	100.00		5300.44	5262.44	5249.10
78 Se # 1	1.9328	0.4832	ug/l	19.54	100.00		115.33	113.33	114.33
88 Sr # 3	16.344	4.086	ug/l	1.63	1800.00		104758.00	103149.06	103614.67
95 Mo # 3	5.712	1.428	ug/l	4.65	1800.00		4997.51	5117.55	4707.43
107 Ag # 3	0.11332	0.02833	ug/l	15.17	100.00		420.02	336.68	366.68
111 Cd # 3	0.23444	0.05861	ug/l	19.78	100.00		98.90	142.21	135.64
118 Sn # 3	4.04	1.01	ug/l	1.34	1800.00		7034.97	7141.65	7151.70
121 Sb # 3	1.4316	0.3579	ug/l	0.46	100.00		2796.98	2796.97	2796.98
137 Ba # 3	170.88	42.72	ug/l	0.58	1800.00		146933.50	145482.86	145147.33
202 Hg # 3	0.09512	0.02378	ug/l	16.99	5.00		173.00	175.00	156.67
205 Tl # 3	0.4696	0.1174	ug/l	5.96	20.00		2847.01	2930.47	2653.63
208 Pb # 3	93.96	23.49	ug/l	1.15	1800.00		721330.00	724465.81	719810.94
232 Th # 3	19.692	4.923	ug/l	0.35	#VALUE!		151429.34	152873.83	152220.53
238 U # 3	4.832	1.208	ug/l	1.01	#VALUE!		39140.38	38809.91	38602.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	346815.72	0.50	442436.88	78.4	60 - 125		348650.09	345216.50	346580.59
45 Sc # 1	369469.31	21.96	456299.72	81.0	60 - 125		319795.47	463084.56	325527.91
45 Sc # 3	652892.25	0.39	765061.25	85.3	60 - 125		653603.56	650035.94	655037.19
74 Ge # 1	119841.98	17.77	153441.28	78.1	60 - 125		106889.27	144418.00	108218.66
74 Ge # 2	37257.23	0.57	47804.94	77.9	60 - 125		37481.73	37232.33	37057.60
74 Ge # 3	182708.08	0.16	224564.78	81.4	60 - 125		182409.81	182739.45	182974.97
89 Y # 3	1306272.10	0.92	1302847.50	100.3	60 - 125		1297739.80	1319988.40	1301088.50
115 In # 3	1145189.90	0.46	1366177.60	83.8	60 - 125		1149019.80	1139247.30	1147302.50
159 Tb # 3	1664440.90	0.84	2052817.90	81.1	60 - 125		1674790.00	1648544.10	1669988.80
209 Bi # 3	1032725.80	0.64	1405468.50	73.5	60 - 125		1028806.90	1040360.80	1029009.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\056SMPL.D\056SMPL.D#
 Date Acquired: Aug 26 2014 02:40 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-8-a
 Misc Info: 3050 1/20
 Vial Number: 4307
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	5.184	1.296	ug/l	5.80	100.00		1943.48	1980.15	1783.46
11 B #3	3.4684	0.8671	ug/l	6.03	1800.00		2930.31	2826.94	2843.62
23 Na #1	-4.388	-1.097	ug/l	12.74	81000.00		78429.51	77070.98	78232.16
24 Mg #1	1613.2	403.3	ug/l	0.51	81000.00		833166.31	820558.44	833933.19
27 Al #1	46640	11660	ug/l	0.65	81000.00		28346772.00	28258096.00	28674732.00
39 K #2	1474	368.5	ug/l	0.84	81000.00		109428.64	111393.15	111396.76
40 Ca #1	6460	1615	ug/l	0.08	81000.00		9156303.00	9096176.00	9158381.00
47 Ti #3	132.56	33.14	ug/l	0.70	1620.00		32268.32	32154.62	32652.27
51 V #2	248.2	62.05	ug/l	1.35	1800.00		132631.88	131030.57	131414.55
52 Cr #2	198.08	49.52	ug/l	1.02	1800.00		128158.07	127803.02	126333.93
55 Mn #3	11424	2856	ug/l	0.67	1800.00	Fail	44540844.00	44426192.00	44294272.00
56 Fe #1	207440	51860	ug/l	0.37	81000.00		383570240.00	381333730.00	381103840.00
59 Co #3	88.68	22.17	ug/l	1.15	1800.00		260682.59	262712.25	259879.78
60 Ni #2	41.84	10.46	ug/l	1.11	1800.00		10009.45	9959.42	10032.79
63 Cu #2	22.4	5.6	ug/l	0.58	1800.00		14915.00	15007.28	14996.16
66 Zn #3	92.92	23.23	ug/l	0.32	1800.00		40538.54	39860.38	40418.44
75 As #2	91.52	22.88	ug/l	1.28	100.00		6428.14	6413.80	6291.09
78 Se #1	1.6564	0.4141	ug/l	5.43	100.00		107.67	99.00	99.00
88 Sr #3	18.656	4.664	ug/l	0.07	1800.00		115510.59	114020.38	114925.67
95 Mo #3	8.044	2.011	ug/l	1.00	1800.00		6748.15	6881.53	6881.57
107 Ag #3	0.0564	0.0141	ug/l	11.73	100.00		230.01	223.34	256.68
111 Cd #3	0.21468	0.05367	ug/l	38.81	100.00		85.19	161.83	95.16
118 Sn #3	3.9856	0.9964	ug/l	1.89	1800.00		6814.86	7044.95	6964.93
121 Sb #3	1.416	0.354	ug/l	2.93	100.00		2806.99	2693.62	2700.30
137 Ba #3	404.4	101.1	ug/l	1.55	1800.00		343357.81	340822.38	338623.34
202 Hg #3	0.09264	0.02316	ug/l	19.88	5.00		156.67	179.34	163.33
205 Tl #3	0.78	0.195	ug/l	1.37	20.00		4610.81	4574.14	4484.11
208 Pb #3	101.16	25.29	ug/l	0.38	1800.00		780902.25	776053.19	772681.88
232 Th #3	24.832	6.208	ug/l	0.64	#VALUE!		187928.11	189812.61	188360.00
238 U #3	6.796	1.699	ug/l	0.69	#VALUE!		53347.20	54072.37	53828.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	339324.59	0.33	442436.88	76.7	60 - 125		338587.81	338785.72	340600.22
45 Sc #1	380744.25	0.42	456299.72	83.4	60 - 125		381905.41	378927.44	381399.91
45 Sc #3	661688.69	0.11	765061.25	86.5	60 - 125		661233.50	661295.13	662537.63
74 Ge #1	119338.96	0.38	153441.28	77.8	60 - 125		119804.59	118910.93	119301.37
74 Ge #2	36609.65	0.78	47804.94	76.6	60 - 125		36387.37	36929.54	36512.02
74 Ge #3	181474.00	0.60	224564.78	80.8	60 - 125		182126.63	180218.64	182076.73
89 Y #3	1265548.60	0.70	1302847.50	97.1	60 - 125		1274113.80	1256486.10	1266045.90
115 In #3	1131568.40	0.91	1366177.60	82.8	60 - 125		1125046.80	1126270.90	1143387.80
159 Tb #3	1662967.60	0.38	2052817.90	81.0	60 - 125		1669736.30	1657296.40	1661870.60
209 Bi #3	1015777.90	0.23	1405468.50	72.3	60 - 125		1014491.40	1014374.40	1018467.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\057SMPL.D\057SMPL.D#
 Date Acquired: Aug 26 2014 02:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-9-a
 Misc Info: 3050 1/20
 Vial Number: 4308
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	6.308	1.577	ug/l	3.40	100.00		2200.18	2336.87	2176.85
11 B # 3	3.4176	0.8544	ug/l	11.00	1800.00		2856.95	2693.58	2720.26
23 Na # 1	-9.588	-2.397	ug/l	15.83	81000.00		72041.31	72336.06	73774.26
24 Mg # 1	1436.8	359.2	ug/l	1.31	81000.00		717913.75	724123.69	732949.25
27 Al # 1	44560	11140	ug/l	0.09	81000.00		26729168.00	26635220.00	26569920.00
39 K # 2	1284.8	321.2	ug/l	0.20	81000.00		95168.80	94391.28	95464.23
40 Ca # 1	6464	1616	ug/l	0.46	81000.00		9025312.00	8911215.00	8977137.00
47 Ti # 3	135.36	33.84	ug/l	1.69	1620.00		32161.43	31373.37	31370.16
51 V # 2	284.24	71.06	ug/l	0.69	1800.00		146766.70	146625.41	145765.66
52 Cr # 2	176.08	44.02	ug/l	0.99	1800.00		111247.39	109473.74	109284.70
55 Mn # 3	43000	10750	ug/l	1.50	1800.00	Fail	163791310.00	161972100.00	159543250.00
56 Fe # 1	221600	55400	ug/l	0.45	81000.00		402790880.00	397747940.00	400624160.00
59 Co # 3	214.48	53.62	ug/l	1.27	1800.00		619312.31	608757.31	605447.63
60 Ni # 2	52.96	13.24	ug/l	0.39	1800.00		12319.73	12253.02	12264.14
63 Cu # 2	20.884	5.221	ug/l	2.37	1800.00		13890.84	13542.83	13290.40
66 Zn # 3	91.68	22.92	ug/l	1.52	1800.00		39055.42	38337.12	38009.75
75 As # 2	106.16	26.54	ug/l	0.44	100.00		7158.74	7178.75	7208.43
78 Se # 1	2.0348	0.5087	ug/l	1.96	100.00		119.33	118.33	121.67
88 Sr # 3	26.604	6.651	ug/l	1.68	1800.00		157498.84	155555.11	155417.84
95 Mo # 3	14.86	3.715	ug/l	2.03	1800.00		12041.10	12424.66	12171.18
107 Ag # 3	0.09816	0.02454	ug/l	14.17	100.00		353.35	290.01	333.35
111 Cd # 3	0.8776	0.2194	ug/l	16.12	100.00		480.71	470.62	360.67
118 Sn # 3	3.796	0.949	ug/l	2.50	1800.00		6591.43	6418.02	6378.02
121 Sb # 3	1.6488	0.4122	ug/l	7.23	100.00		3290.41	3100.37	2887.00
137 Ba # 3	1992.8	498.2	ug/l	2.31	1800.00		1664114.50	1631767.00	1609612.80
202 Hg # 3	0.117	0.02925	ug/l	29.60	5.00		203.35	162.00	168.33
205 Tl # 3	3.234	0.8085	ug/l	1.35	20.00		18014.00	17987.34	17653.60
208 Pb # 3	242	60.5	ug/l	1.10	1800.00		1822877.90	1809599.10	1790611.40
232 Th # 3	23.384	5.846	ug/l	1.67	#VALUE!		176561.50	174738.39	174436.77
238 U # 3	7.228	1.807	ug/l	1.47	#VALUE!		56651.93	56521.60	55919.93

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	328017.13	0.64	442436.88	74.1	60 - 125		325850.38	330010.38	328190.69
45 Sc # 1	373630.03	0.30	456299.72	81.9	60 - 125		374900.34	373111.50	372878.19
45 Sc # 3	633565.13	0.25	765061.25	82.8	60 - 125		631786.50	634901.38	634007.38
74 Ge # 1	117696.84	0.36	153441.28	76.7	60 - 125		118112.39	117704.55	117273.59
74 Ge # 2	35539.40	0.41	47804.94	74.3	60 - 125		35586.86	35376.47	35654.85
74 Ge # 3	175651.13	0.30	224564.78	78.2	60 - 125		175682.08	175102.08	176169.22
89 Y # 3	1207410.90	0.93	1302847.50	92.7	60 - 125		1194565.50	1215568.40	1212099.10
115 In # 3	1101389.80	0.80	1366177.60	80.6	60 - 125		1097651.30	1095067.90	1111450.30
159 Tb # 3	1619511.40	0.22	2052817.90	78.9	60 - 125		1617588.30	1617291.50	1623654.10
209 Bi # 3	1001768.30	1.04	1405468.50	71.3	60 - 125		990223.19	1010301.40	1004780.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\058_QCS.D\058_QCS.D#
 Date Acquired: Aug 26 2014 02:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	19.56	0.10 69.5 - 130	
11 B	18.24 ug/l	1.40	20.00 69.5 - 130	
23 Na	42.45 ug/l	3.52	50.00 69.5 - 130	
24 Mg	55.74 ug/l	1.25	50.00 69.5 - 130	
27 Al	11.24 ug/l	2.18	10.00 69.5 - 130	
39 K	36.51 ug/l	3.64	50.00 69.5 - 130	
40 Ca	58.10 ug/l	2.09	50.00 69.5 - 130	
47 Ti	0.92 ug/l	6.62	1.00 69.5 - 130	
51 V	0.96 ug/l	1.05	1.00 69.5 - 130	
52 Cr	0.96 ug/l	2.76	1.00 69.5 - 130	
55 Mn	1.45 ug/l	1.82	1.00 69.5 - 130	Fail
56 Fe	26.40 ug/l	2.15	20.00 69.5 - 130	Fail
59 Co	0.10 ug/l	8.66	0.10 69.5 - 130	
60 Ni	0.92 ug/l	7.93	1.00 69.5 - 130	
63 Cu	0.86 ug/l	2.16	1.00 69.5 - 130	
66 Zn	3.87 ug/l	2.75	4.00 69.5 - 130	
75 As	0.54 ug/l	6.91	0.50 69.5 - 130	
78 Se	0.46 ug/l	2.20	0.50 69.5 - 130	
88 Sr	0.19 ug/l	3.98	0.20 69.5 - 130	
95 Mo	0.91 ug/l	1.70	1.00 69.5 - 130	
107 Ag	0.20 ug/l	13.71	0.20 69.5 - 130	
111 Cd	0.10 ug/l	7.87	0.10 69.5 - 130	
118 Sn	0.94 ug/l	4.15	1.00 69.5 - 130	
121 Sb	0.95 ug/l	1.21	1.00 69.5 - 130	
137 Ba	0.98 ug/l	5.10	1.00 69.5 - 130	
202 Hg	0.14 ug/l	2.43	0.16 69.5 - 130	
205 Tl	0.19 ug/l	3.34	0.20 69.5 - 130	
208 Pb	0.27 ug/l	1.23	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	319860.69	0.38	442436.88	72.3	60 - 125		
45 Sc	318640.84	2.03	456299.72	69.8	60 - 125		
45 Sc	562449.75	0.82	765061.25	73.5	60 - 125		
74 Ge	114834.20	0.39	153441.28	74.8	60 - 125		
74 Ge	34907.04	0.95	47804.94	73.0	60 - 125		
74 Ge	174221.16	0.55	224564.78	77.6	60 - 125		
89 Y	1046046.80	0.73	1302847.50	80.3	60 - 125		
115 In	1103119.00	0.48	1366177.60	80.7	60 - 125		
159 Tb	1593483.30	1.01	2052817.90	77.6	60 - 125		
209 Bi	1002063.60	0.78	1405468.50	71.3	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\059_CCV.D\059_CCV.D#
 Date Acquired: Aug 26 2014 03:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.31 ug/l	0.15	50.00	89.5 - 110		70228.85	70382.67	71222.41
11 B	92.71 ug/l	0.35	100.00	89.5 - 110		105908.79	105416.96	107082.17
23 Na	5115 ug/l	0.64	5000.00	89.5 - 110		13039636.00	13072890.00	13269901.00
24 Mg	5042 ug/l	0.45	5000.00	89.5 - 110		9058090.00	8978516.00	9047464.00
27 Al	529.2 ug/l	0.45	500.00	89.5 - 110		1118536.50	1128430.40	1130281.50
39 K	4936 ug/l	0.86	5000.00	89.5 - 110		1345442.50	1347741.60	1352529.80
40 Ca	5300 ug/l	0.01	5000.00	89.5 - 110		26038532.00	26037556.00	26185016.00
47 Ti	51.5 ug/l	0.56	50.00	89.5 - 110		44473.29	45204.96	45262.00
51 V	48.57 ug/l	0.32	50.00	89.5 - 110		101753.91	103498.70	102744.40
52 Cr	48.01 ug/l	0.32	50.00	89.5 - 110		122021.40	123834.02	123193.05
55 Mn	499.6 ug/l	0.46	500.00	89.5 - 110		7797156.50	7853674.00	7936114.00
56 Fe	5458 ug/l	0.33	5000.00	89.5 - 110		35093324.00	34992968.00	35049664.00
59 Co	49.13 ug/l	0.43	50.00	89.5 - 110		581628.00	582814.38	591828.50
60 Ni	49.42 ug/l	0.70	50.00	89.5 - 110		46681.86	46895.69	47109.56
63 Cu	48.33 ug/l	0.36	50.00	89.5 - 110		125073.90	126620.17	126274.63
66 Zn	48.27 ug/l	0.32	50.00	89.5 - 110		83572.67	84105.13	84617.77
75 As	50.34 ug/l	0.13	50.00	89.5 - 110		13785.53	14078.09	14012.03
78 Se	50.18 ug/l	0.20	50.00	89.5 - 110		10227.88	10359.95	10335.94
88 Sr	48.98 ug/l	0.23	50.00	89.5 - 110		1034737.40	1034369.10	1052389.90
95 Mo	50.04 ug/l	0.27	50.00	89.5 - 110		165812.16	166968.39	167711.33
107 Ag	48.31 ug/l	0.46	50.00	89.5 - 110		446503.91	452909.72	450958.84
111 Cd	48.06 ug/l	0.68	50.00	89.5 - 110		96609.95	96710.06	96944.33
118 Sn	48.74 ug/l	1.13	50.00	89.5 - 110		309347.81	305952.41	311280.03
121 Sb	48.13 ug/l	0.35	50.00	89.5 - 110		363120.16	364857.59	367160.50
137 Ba	49.15 ug/l	0.47	50.00	89.5 - 110		164076.52	164420.59	166042.52
202 Hg	2.566 ug/l	0.55	2.50	89.5 - 110		6692.42	6802.80	6838.15
205 Tl	9.517 ug/l	0.68	10.00	89.5 - 110		208210.84	209585.52	211258.70
208 Pb	47.66 ug/l	0.31	50.00	89.5 - 110		1416293.60	1435996.40	1438254.40

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	331008.78	0.90	442436.88	74.8	60 - 125		329015.63	329565.38	334445.25
45 Sc	331870.34	0.32	456299.72	72.7	60 - 125		331282.38	331245.81	333082.84
45 Sc	592427.38	1.18	765061.25	77.4	60 - 125		585562.69	592181.88	599537.56
74 Ge	118261.87	0.77	153441.28	77.1	60 - 125		117303.99	119112.02	118369.59
74 Ge	36445.96	1.00	47804.94	76.2	60 - 125		36028.90	36703.50	36605.49
74 Ge	183601.38	0.53	224564.78	81.8	60 - 125		183042.44	183045.41	184716.27
89 Y	1093337.90	1.18	1302847.50	83.9	60 - 125		1087865.60	1084111.60	1108036.50
115 In	1125199.30	0.83	1366177.60	82.4	60 - 125		1114881.30	1127662.60	1133054.10
159 Tb	1626330.90	0.90	2052817.90	79.2	60 - 125		1609924.50	1638303.80	1630764.40
209 Bi	1001605.60	0.53	1405468.50	71.3	60 - 125		995508.00	1005468.10	1003840.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\060_CCB.D\060_CCB.D#
 Date Acquired: Aug 26 2014 03:10 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.0034	0.0034	ug/l	148.06	#VALUE!		13.33	0.00	3.33
11 B # 3	1.671	1.671	ug/l	12.35	#VALUE!		3713.77	3813.80	3477.08
23 Na # 1	-11.62	-11.62	ug/l	1.60	#VALUE!		42226.84	42367.24	41752.43
24 Mg # 1	0.223	0.223	ug/l	17.84	#VALUE!		1163.40	1220.07	1320.09
27 Al # 1	0.1349	0.1349	ug/l	30.79	#VALUE!		1563.44	1620.12	1446.76
39 K # 2	-11.83	-11.83	ug/l	2.86	#VALUE!		7271.61	7118.21	7311.60
40 Ca # 1	0.9533	0.9533	ug/l	10.81	#VALUE!		24853.41	24215.97	24272.80
47 Ti # 3	-0.0737	-0.0737	ug/l	7.22	#VALUE!		20.00	26.67	20.00
51 V # 2	-0.01975	-0.01975	ug/l	46.27	#VALUE!		124.45	163.34	148.89
52 Cr # 2	-0.01348	-0.01348	ug/l	44.73	#VALUE!		216.67	230.00	248.89
55 Mn # 3	0.1513	0.1513	ug/l	3.02	#VALUE!		3357.06	3440.42	3650.46
56 Fe # 1	1.706	1.706	ug/l	2.12	#VALUE!		14289.19	14929.72	14616.12
59 Co # 3	0.0003809	0.0003809	ug/l	232.24	#VALUE!		46.67	66.67	66.67
60 Ni # 2	-0.01192	-0.01192	ug/l	81.42	#VALUE!		24.44	40.00	23.33
63 Cu # 2	-0.08003	-0.08003	ug/l	1.70	#VALUE!		141.11	144.45	137.78
66 Zn # 3	-0.07887	-0.07887	ug/l	21.66	#VALUE!		363.35	406.68	356.68
75 As # 2	0.008125	0.008125	ug/l	95.32	#VALUE!		12.00	16.33	14.67
78 Se # 1	-0.03383	-0.03383	ug/l	21.26	#VALUE!		9.00	11.00	8.00
88 Sr # 3	0.002961	0.002961	ug/l	78.72	#VALUE!		220.01	133.34	223.34
95 Mo # 3	0.04122	0.04122	ug/l	9.68	#VALUE!		236.68	230.01	220.01
107 Ag # 3	0.0005029	0.0005029	ug/l	439.65	#VALUE!		126.67	93.34	96.67
111 Cd # 3	0.005725	0.005725	ug/l	77.69	#VALUE!		6.61	23.28	19.95
118 Sn # 3	0.007434	0.007434	ug/l	97.36	#VALUE!		670.04	600.03	620.03
121 Sb # 3	0.02717	0.02717	ug/l	18.86	#VALUE!		230.01	270.01	200.01
137 Ba # 3	0.004571	0.004571	ug/l	21.41	#VALUE!		43.33	50.00	46.67
202 Hg # 3	0.01637	0.01637	ug/l	32.92	#VALUE!		146.33	144.33	127.00
205 Tl # 3	-0.002348	-0.002348	ug/l	35.51	#VALUE!		123.34	93.34	100.00
208 Pb # 3	-0.01806	-0.01806	ug/l	11.09	#VALUE!		546.69	666.70	596.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	328341.75	2.39	442436.88	74.2	60 - 125		319836.34	329923.53	335265.31
45 Sc # 1	340703.75	0.68	456299.72	74.7	60 - 125		338036.63	342066.19	342008.44
45 Sc # 3	583088.63	2.87	765061.25	76.2	60 - 125		591791.75	563791.56	593682.56
74 Ge # 1	121482.21	0.14	153441.28	79.2	60 - 125		121340.17	121675.62	121430.83
74 Ge # 2	37052.02	0.23	47804.94	77.5	60 - 125		36994.09	37010.85	37151.12
74 Ge # 3	177833.91	2.75	224564.78	79.2	60 - 125		172630.30	178532.70	182338.69
89 Y # 3	1063165.90	2.27	1302847.50	81.6	60 - 125		1058701.80	1041559.90	1089235.90
115 In # 3	1095748.40	2.03	1366177.60	80.2	60 - 125		1076688.90	1090420.30	1120136.00
159 Tb # 3	1562064.50	2.22	2052817.90	76.1	60 - 125		1529477.10	1558319.50	1598396.90
209 Bi # 3	1007634.10	1.75	1405468.50	71.7	60 - 125		1014806.90	987563.75	1020531.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\061SMPL.D\061SMPL.D#
 Date Acquired: Aug 26 2014 03:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-10-a
 Misc Info: 3050 1/20
 Vial Number: 4309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	5.536	1.384	ug/l	10.54	100.00		1903.47	1906.81	2063.50
11 B # 3	8.084	2.021	ug/l	22.47	1800.00		3950.50	4127.22	4037.19
23 Na # 1	54.24	13.56	ug/l	0.80	81000.00		117680.87	117492.15	117492.73
24 Mg # 1	2550	637.5	ug/l	0.45	81000.00		1270694.80	1278793.40	1274533.60
27 Al # 1	34736	8684	ug/l	0.63	81000.00		20670272.00	20486114.00	20637358.00
39 K # 2	2158.4	539.6	ug/l	0.98	81000.00		157641.42	159345.97	158094.88
40 Ca # 1	15576	3894	ug/l	0.60	81000.00		21297204.00	21460660.00	21428604.00
47 Ti # 3	266.76	66.69	ug/l	16.30	1620.00		60835.41	63243.29	61100.22
51 V # 2	171.2	42.8	ug/l	1.09	1800.00		91521.47	91977.04	90946.61
52 Cr # 2	165.12	41.28	ug/l	0.78	1800.00		106417.10	107488.91	106973.84
55 Mn # 3	8488	2122	ug/l	11.69	1800.00	Fail	32107206.00	32441466.00	31793542.00
56 Fe # 1	148680	37170	ug/l	0.38	81000.00		265943540.00	267833140.00	265298050.00
59 Co # 3	71.36	17.84	ug/l	11.72	1800.00		205505.02	207096.89	201007.66
60 Ni # 2	37.228	9.307	ug/l	1.24	1800.00		8886.64	9053.39	8943.35
63 Cu # 2	42.28	10.57	ug/l	0.48	1800.00		28101.46	28123.63	28150.35
66 Zn # 3	434.8	108.7	ug/l	12.36	1800.00		180535.61	184643.53	179506.80
75 As # 2	63.16	15.79	ug/l	1.22	100.00		4457.55	4445.55	4399.54
78 Se # 1	1.7452	0.4363	ug/l	7.36	100.00		103.33	115.00	104.00
88 Sr # 3	31.3	7.825	ug/l	12.19	1800.00		195938.80	197650.31	193832.44
95 Mo # 3	5.164	1.291	ug/l	14.66	1800.00		4383.99	4270.63	4107.27
107 Ag # 3	0.3212	0.0803	ug/l	23.05	100.00		800.04	873.38	783.37
111 Cd # 3	1.046	0.2615	ug/l	13.16	100.00		515.72	502.41	525.79
118 Sn # 3	6.204	1.551	ug/l	18.61	1800.00		9873.02	10370.07	9843.04
121 Sb # 3	1.3768	0.3442	ug/l	16.05	100.00		2596.95	2603.62	2456.91
137 Ba # 3	398.64	99.66	ug/l	15.81	1800.00		320939.63	327172.50	319482.41
202 Hg # 3	0.16264	0.04066	ug/l	53.84	5.00		209.02	237.35	169.67
205 Tl # 3	0.7424	0.1856	ug/l	14.35	20.00		4277.38	4254.02	4127.33
208 Pb # 3	371.92	92.98	ug/l	14.19	1800.00		2773117.50	2794828.80	2741099.30
232 Th # 3	15.884	3.971	ug/l	15.24	#VALUE!		119033.64	121635.35	117655.66
238 U # 3	4.016	1.004	ug/l	13.96	#VALUE!		31970.60	31740.19	30731.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	329135.06	10.11	442436.88	74.4	60 - 125		360862.88	294533.41	332008.91
45 Sc # 1	370407.81	0.30	456299.72	81.2	60 - 125		371147.69	370967.88	369107.84
45 Sc # 3	637901.06	14.23	765061.25	83.4	60 - 125		730904.19	549568.19	633230.88
74 Ge # 1	120447.54	0.25	153441.28	78.5	60 - 125		120791.21	120273.98	120277.42
74 Ge # 2	36845.73	0.54	47804.94	77.1	60 - 125		36759.30	36703.58	37074.31
74 Ge # 3	178106.44	10.90	224564.78	79.3	60 - 125		197256.97	158433.25	178629.14
89 Y # 3	1298764.80	11.30	1302847.50	99.7	60 - 125		1438701.00	1146000.90	1311592.50
115 In # 3	1102126.50	14.22	1366177.60	80.7	60 - 125		1251020.90	938623.75	1116734.60
159 Tb # 3	1635428.00	13.34	2052817.90	79.7	60 - 125		1847883.50	1412033.10	1646367.30
209 Bi # 3	1018760.30	13.98	1405468.50	72.5	60 - 125		1165267.30	880846.63	1010167.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\062SMPL.D\062SMPL.D#
 Date Acquired: Aug 26 2014 03:25 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-11-a
 Misc Info: 3050 1/20
 Vial Number: 4310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	4.464	1.116	ug/l	6.54	100.00		1703.45	1500.10	1536.76
11 B #3	4.588	1.147	ug/l	10.75	1800.00		3030.31	3200.35	2990.31
23 Na #1	-1.262	-0.3155	ug/l	160.25	81000.00		75086.56	76746.16	76304.35
24 Mg #1	1434.4	358.6	ug/l	0.63	81000.00		701584.25	700316.94	695904.81
27 Al #1	35376	8844	ug/l	0.38	81000.00		20590590.00	20419222.00	20332930.00
39 K #2	1616	404	ug/l	0.49	81000.00		117305.39	117997.11	118837.86
40 Ca #1	7328	1832	ug/l	0.21	81000.00		9887442.00	9790965.00	9787714.00
47 Ti #3	197.84	49.46	ug/l	1.98	1620.00		46584.94	45191.66	46354.29
51 V #2	198.88	49.72	ug/l	1.19	1800.00		104097.35	103490.93	102898.84
52 Cr #2	173.4	43.35	ug/l	1.40	1800.00		109247.70	110283.74	108673.48
55 Mn #3	4988	1247	ug/l	0.94	1800.00		19050504.00	18887174.00	18745096.00
56 Fe #1	166280	41570	ug/l	0.52	81000.00		291228000.00	290239620.00	289549180.00
59 Co #3	53.48	13.37	ug/l	0.54	1800.00		154511.75	152563.23	153267.73
60 Ni #2	33.752	8.438	ug/l	1.03	1800.00		7859.50	7821.73	8074.04
63 Cu #2	20.112	5.028	ug/l	1.53	1800.00		13330.44	13219.25	13094.74
66 Zn #3	115.04	28.76	ug/l	1.26	1800.00		49182.90	47926.35	48237.36
75 As #2	63.48	15.87	ug/l	1.33	100.00		4387.54	4323.52	4317.19
78 Se #1	1.2464	0.3116	ug/l	6.57	100.00		74.67	80.00	81.33
88 Sr #3	16.716	4.179	ug/l	1.19	1800.00		103661.43	103430.48	101884.78
95 Mo #3	5.112	1.278	ug/l	3.66	1800.00		4313.97	4080.62	4400.67
107 Ag #3	0.10604	0.02651	ug/l	24.12	100.00		343.35	400.02	286.68
111 Cd #3	0.34372	0.08593	ug/l	16.72	100.00		205.73	162.44	155.70
118 Sn #3	3.9152	0.9788	ug/l	5.01	1800.00		6954.92	6461.42	6531.46
121 Sb #3	1.2588	0.3147	ug/l	4.29	100.00		2460.25	2353.55	2296.89
137 Ba #3	181.32	45.33	ug/l	2.10	1800.00		149729.42	150405.69	146559.38
202 Hg #3	0.08596	0.02149	ug/l	14.04	5.00		158.33	165.00	151.33
205 Tl #3	0.4736	0.1184	ug/l	0.95	20.00		2733.66	2740.33	2820.33
208 Pb #3	99.72	24.93	ug/l	1.61	1800.00		752228.13	749068.75	741932.69
232 Th #3	21.068	5.267	ug/l	0.86	#VALUE!		160599.80	158023.16	159204.84
238 U #3	4.2	1.05	ug/l	0.33	#VALUE!		32922.57	33139.69	33106.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	327002.56	0.82	442436.88	73.9	60 - 125		327877.66	324007.75	329122.25
45 Sc #1	361055.13	0.72	456299.72	79.1	60 - 125		363998.28	359028.47	360138.59
45 Sc #3	631507.38	0.81	765061.25	82.5	60 - 125		626167.69	631919.81	636434.69
74 Ge #1	116405.32	0.83	153441.28	75.9	60 - 125		117509.50	115737.43	115969.01
74 Ge #2	35891.53	0.70	47804.94	75.1	60 - 125		35801.70	35699.34	36173.56
74 Ge #3	176733.77	0.32	224564.78	78.7	60 - 125		176875.95	176118.59	177206.78
89 Y #3	1266753.10	0.52	1302847.50	97.2	60 - 125		1271319.00	1259269.00	1269671.50
115 In #3	1101894.60	0.78	1366177.60	80.7	60 - 125		1094617.50	1099654.00	1111412.40
159 Tb #3	1624236.40	0.91	2052817.90	79.1	60 - 125		1611547.10	1620787.90	1640374.40
209 Bi #3	1010467.60	0.08	1405468.50	71.9	60 - 125		1010269.60	1011329.40	1009803.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\063SMPL.D\063SMPL.D#
 Date Acquired: Aug 26 2014 03:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-12-a
 Misc Info: 3050 1/50
 Vial Number: 4311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	6.955	0.6955	ug/l	4.91	100.00		1006.72	926.71	946.72
11 B # 3	5.132	0.5132	ug/l	31.74	1800.00		2490.23	2170.17	2270.18
23 Na # 1	-101.4	-10.14	ug/l	3.62	81000.00		45497.55	47358.66	46433.15
24 Mg # 1	1327	132.7	ug/l	0.38	81000.00		246188.61	247291.27	247263.02
27 Al # 1	43350	4335	ug/l	0.25	81000.00		9548451.00	9524655.00	9562103.00
39 K # 2	982.7	98.27	ug/l	1.11	81000.00		35460.50	36121.79	35306.86
40 Ca # 1	4846	484.6	ug/l	1.87	81000.00		2437450.30	2527276.80	2503789.50
47 Ti # 3	209.3	20.93	ug/l	2.07	1620.00		18372.77	17988.99	18803.11
51 V # 2	375.1	37.51	ug/l	1.00	1800.00		75726.42	76588.61	77020.32
52 Cr # 2	303.1	30.31	ug/l	0.30	1800.00		74272.99	75829.13	74719.04
55 Mn # 3	6135	613.5	ug/l	0.98	1800.00		9107837.00	9065016.00	9164544.00
56 Fe # 1	329000	32900	ug/l	0.67	81000.00		219667440.00	218689620.00	218196480.00
59 Co # 3	77	7.7	ug/l	2.77	1800.00		88343.48	86414.22	85165.41
60 Ni # 2	45.49	4.549	ug/l	0.74	1800.00		4177.17	4223.85	4182.73
63 Cu # 2	18.67	1.867	ug/l	1.72	1800.00		5028.50	5080.74	4926.26
66 Zn # 3	133	13.3	ug/l	1.83	1800.00		22107.08	22651.04	21933.55
75 As # 2	115.3	11.53	ug/l	2.16	100.00		3124.94	3075.27	3067.93
78 Se # 1	0.9409	0.09409	ug/l	22.23	100.00		30.33	38.67	34.33
88 Sr # 3	13.63	1.363	ug/l	1.40	1800.00		30055.82	30863.80	30259.39
95 Mo # 3	8.894	0.8894	ug/l	2.74	1800.00		2880.31	2970.34	3023.68
107 Ag # 3	0.0502	0.00502	ug/l	50.10	100.00		120.00	156.67	160.00
111 Cd # 3	0.4152	0.04152	ug/l	15.49	100.00		72.70	96.02	89.34
118 Sn # 3	3.227	0.3227	ug/l	1.67	1800.00		2583.60	2546.93	2526.92
121 Sb # 3	2.284	0.2284	ug/l	2.60	100.00		1666.79	1700.14	1753.48
137 Ba # 3	358.6	35.86	ug/l	0.56	1800.00		116419.55	115898.93	116381.92
202 Hg # 3	0.1746	0.01746	ug/l	33.65	5.00		149.00	159.00	129.67
205 Tl # 3	0.5936	0.05936	ug/l	7.33	20.00		1493.46	1343.43	1506.78
208 Pb # 3	113.7	11.37	ug/l	0.28	1800.00		335724.59	337308.81	338399.00
232 Th # 3	26.33	2.633	ug/l	0.56	#VALUE!		78690.10	78339.45	79903.87
238 U # 3	8.931	0.8931	ug/l	1.56	#VALUE!		27305.19	28002.93	28259.96

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	318904.63	0.63	442436.88	72.1	60 - 125		316683.97	319462.03	320567.84
45 Sc # 1	343867.59	0.39	456299.72	75.4	60 - 125		343257.28	342921.78	345423.75
45 Sc # 3	594358.19	0.29	765061.25	77.7	60 - 125		592675.44	594232.19	596166.81
74 Ge # 1	115326.43	0.15	153441.28	75.2	60 - 125		115265.62	115193.12	115520.53
74 Ge # 2	35124.16	1.27	47804.94	73.5	60 - 125		34691.83	35583.59	35097.06
74 Ge # 3	173321.20	0.94	224564.78	77.2	60 - 125		171467.97	174023.00	174472.69
89 Y # 3	1142499.90	0.03	1302847.50	87.7	60 - 125		1142327.00	1142254.40	1142918.40
115 In # 3	1087395.30	0.80	1366177.60	79.6	60 - 125		1092164.40	1077319.60	1092701.40
159 Tb # 3	1603497.90	0.60	2052817.90	78.1	60 - 125		1592367.50	1608857.90	1609268.40
209 Bi # 3	1001025.80	0.48	1405468.50	71.2	60 - 125		999251.75	997401.63	1006424.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\064SMPL.D\064SMPL.D#
 Date Acquired: Aug 26 2014 03:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-13-a
 Misc Info: 3050 1/50
 Vial Number: 4312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Tune Step
 Dilution Factor: 10.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 10.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	5.464	0.5464	ug/l	5.33	100.00		703.37	786.71	780.04
11 B # 3	5.56	0.556	ug/l	17.34	1800.00		2443.56	2273.53	2370.21
23 Na # 1	-97.78	-9.778	ug/l	1.27	81000.00		47325.11	47184.74	47930.22
24 Mg # 1	1432	143.2	ug/l	0.53	81000.00		264038.31	266505.88	270121.63
27 Al # 1	40800	4080	ug/l	0.10	81000.00		8920968.00	9024101.00	9050316.00
39 K # 2	1060	106	ug/l	12.34	81000.00		39545.24	39595.28	39405.07
40 Ca # 1	5337	533.7	ug/l	0.60	81000.00		2735684.80	2730536.50	2766093.30
47 Ti # 3	197.8	19.78	ug/l	1.28	1620.00		17278.29	17862.27	17508.57
51 V # 2	291.9	29.19	ug/l	10.37	1800.00		62705.46	63339.69	61306.48
52 Cr # 2	237.1	23.71	ug/l	9.98	1800.00		62083.47	61833.65	60750.44
55 Mn # 3	5122	512.2	ug/l	1.50	1800.00		7716722.50	7728608.00	7718246.50
56 Fe # 1	271300	27130	ug/l	0.52	81000.00		179342690.00	182047280.00	180935860.00
59 Co # 3	95.97	9.597	ug/l	1.06	1800.00		109321.43	108627.20	110836.57
60 Ni # 2	40.89	4.089	ug/l	9.54	1800.00		3974.92	3976.02	3932.68
63 Cu # 2	19.11	1.911	ug/l	13.10	1800.00		5467.52	5491.97	5144.09
66 Zn # 3	145	14.5	ug/l	1.55	1800.00		24620.42	24406.71	24647.11
75 As # 2	89.66	8.966	ug/l	9.27	100.00		2533.85	2526.85	2513.51
78 Se # 1	0.9652	0.09652	ug/l	6.94	100.00		34.00	34.67	36.67
88 Sr # 3	13.95	1.395	ug/l	0.82	1800.00		30800.34	31184.28	30970.77
95 Mo # 3	7.824	0.7824	ug/l	3.52	1800.00		2760.29	2546.93	2663.62
107 Ag # 3	0.03657	0.003657	ug/l	49.22	100.00		133.34	120.00	153.34
111 Cd # 3	0.3297	0.03297	ug/l	37.91	100.00		79.39	89.44	42.75
118 Sn # 3	3.287	0.3287	ug/l	2.57	1800.00		2590.28	2660.28	2643.62
121 Sb # 3	1.878	0.1878	ug/l	1.33	100.00		1420.11	1430.10	1446.77
137 Ba # 3	184.5	18.45	ug/l	2.08	1800.00		59802.21	60651.36	61946.27
202 Hg # 3	0.1813	0.01813	ug/l	45.48	5.00		131.67	140.33	172.34
205 Tl # 3	0.3571	0.03571	ug/l	7.99	20.00		963.40	983.39	866.72
208 Pb # 3	162.1	16.21	ug/l	0.60	1800.00		480494.38	481470.72	484400.31
232 Th # 3	25.81	2.581	ug/l	0.36	#VALUE!		77584.30	78918.95	79267.22
238 U # 3	6.796	0.6796	ug/l	1.55	#VALUE!		21712.56	21338.81	21512.21

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	319688.97	0.85	442436.88	72.3	60 - 125		316699.59	322010.69	320356.63
45 Sc # 1	344426.31	0.70	456299.72	75.5	60 - 125		341755.47	345038.97	346484.50
45 Sc # 3	599917.81	0.57	765061.25	78.4	60 - 125		595986.06	601864.31	601903.00
74 Ge # 1	115917.23	0.28	153441.28	75.5	60 - 125		115558.70	116189.47	116003.55
74 Ge # 2	37080.92	9.33	47804.94	77.6	60 - 125		34917.84	35255.12	41069.82
74 Ge # 3	175902.61	1.51	224564.78	78.3	60 - 125		173352.56	175712.20	178643.09
89 Y # 3	1138053.40	0.57	1302847.50	87.4	60 - 125		1133521.90	1135208.00	1145429.90
115 In # 3	1105234.30	0.63	1366177.60	80.9	60 - 125		1112076.60	1098150.40	1105475.60
159 Tb # 3	1608796.80	0.58	2052817.90	78.4	60 - 125		1599053.50	1617661.40	1609675.40
209 Bi # 3	1016128.00	0.78	1405468.50	72.3	60 - 125		1007237.70	1018774.70	1022371.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\065_CCV.D\065_CCV.D#
 Date Acquired: Aug 26 2014 03:47 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.2 ug/l	0.34	50.00	89.5 - 110		68931.15	70416.19	69733.86
11 B	91.37 ug/l	0.28	100.00	89.5 - 110		103107.35	104153.00	103288.24
23 Na	5147 ug/l	0.23	5000.00	89.5 - 110		12974208.00	12873657.00	12889723.00
24 Mg	5072 ug/l	0.29	5000.00	89.5 - 110		8871236.00	8887492.00	8875100.00
27 Al	531 ug/l	0.94	500.00	89.5 - 110		1099729.50	1097283.90	1115851.90
39 K	4897 ug/l	1.13	5000.00	89.5 - 110		1296393.30	1319694.80	1325686.00
40 Ca	5329 ug/l	0.88	5000.00	89.5 - 110		25755686.00	25344930.00	25820362.00
47 Ti	51.48 ug/l	1.05	50.00	89.5 - 110		44503.40	44342.93	44954.16
51 V	48.64 ug/l	0.94	50.00	89.5 - 110		99833.46	101324.70	101725.76
52 Cr	48.29 ug/l	0.34	50.00	89.5 - 110		121107.57	120959.63	122378.24
55 Mn	498 ug/l	0.98	500.00	89.5 - 110		7635615.00	7658725.50	7851481.50
56 Fe	5535 ug/l	0.06	5000.00	89.5 - 110	Fail	34788468.00	34673484.00	34744928.00
59 Co	49.06 ug/l	0.56	50.00	89.5 - 110		569446.63	575770.63	581312.38
60 Ni	49.64 ug/l	0.69	50.00	89.5 - 110		46015.82	46474.75	46264.11
63 Cu	48.63 ug/l	0.52	50.00	89.5 - 110		123692.63	124583.03	125188.23
66 Zn	48.27 ug/l	0.02	50.00	89.5 - 110		82461.48	82598.48	83345.46
75 As	50.23 ug/l	0.25	50.00	89.5 - 110		13632.08	13635.08	13755.85
78 Se	50.43 ug/l	1.52	50.00	89.5 - 110		10302.26	10143.50	10150.17
88 Sr	48.88 ug/l	0.44	50.00	89.5 - 110		1027457.90	1028368.30	1033883.10
95 Mo	49.97 ug/l	0.62	50.00	89.5 - 110		164290.33	165038.25	164914.25
107 Ag	48.15 ug/l	0.65	50.00	89.5 - 110		440111.28	444808.13	445983.16
111 Cd	48.61 ug/l	0.45	50.00	89.5 - 110		96492.94	96774.62	97042.51
118 Sn	48.98 ug/l	0.59	50.00	89.5 - 110		306029.66	303825.38	311028.66
121 Sb	48.28 ug/l	0.55	50.00	89.5 - 110		359462.31	362693.09	364318.13
137 Ba	49.66 ug/l	0.71	50.00	89.5 - 110		163057.72	164144.02	167018.31
202 Hg	2.548 ug/l	0.40	2.50	89.5 - 110		6654.73	6668.07	6742.11
205 Tl	9.516 ug/l	0.41	10.00	89.5 - 110		208029.61	208604.47	208459.50
208 Pb	47.52 ug/l	0.14	50.00	89.5 - 110		1416592.30	1414130.40	1420785.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	327466.50	0.75	442436.88	74.0	60 - 125		325130.06	330022.44	327247.03
45 Sc	324408.59	0.20	456299.72	71.1	60 - 125		325118.13	323804.13	324303.56
45 Sc	587664.50	1.04	765061.25	76.8	60 - 125		580635.13	590725.69	591632.56
74 Ge	116433.23	0.65	153441.28	75.9	60 - 125		115593.15	116635.41	117071.13
74 Ge	35785.45	0.33	47804.94	74.9	60 - 125		35768.38	35677.08	35910.89
74 Ge	180751.92	0.56	224564.78	80.5	60 - 125		180006.22	180352.31	181897.23
89 Y	1084351.10	0.63	1302847.50	83.2	60 - 125		1084887.80	1077276.80	1090889.00
115 In	1112711.10	0.63	1366177.60	81.4	60 - 125		1109751.40	1107693.00	1120689.00
159 Tb	1616189.30	0.38	2052817.90	78.7	60 - 125		1614618.90	1611056.30	1622892.50
209 Bi	995207.25	0.91	1405468.50	70.8	60 - 125		986430.63	994698.19	1004493.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\066_CCB.D\066_CCB.D#
 Date Acquired: Aug 26 2014 03:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005721	0.005721	ug/l	85.82	#VALUE!		6.67	3.33	16.67
11 B # 3	1.628	1.628	ug/l	9.60	#VALUE!		3707.10	3683.76	3403.71
23 Na # 1	-11.93	-11.93	ug/l	1.46	#VALUE!		40239.45	39965.29	40573.27
24 Mg # 1	0.1999	0.1999	ug/l	10.96	#VALUE!		1113.39	1186.74	1183.40
27 Al # 1	0.1257	0.1257	ug/l	26.66	#VALUE!		1400.09	1543.44	1510.10
39 K # 2	-12.27	-12.27	ug/l	5.06	#VALUE!		6994.83	6811.40	7108.19
40 Ca # 1	1.073	1.073	ug/l	8.87	#VALUE!		24596.54	24816.81	23815.48
47 Ti # 3	-0.01564	-0.01564	ug/l	315.66	#VALUE!		23.33	100.04	90.02
51 V # 2	-0.01787	-0.01787	ug/l	18.41	#VALUE!		147.78	153.34	138.89
52 Cr # 2	-0.01546	-0.01546	ug/l	24.61	#VALUE!		233.34	216.67	216.67
55 Mn # 3	0.09136	0.09136	ug/l	3.00	#VALUE!		2583.58	2613.59	2550.25
56 Fe # 1	1.826	1.826	ug/l	0.40	#VALUE!		15026.46	15063.15	14936.36
59 Co # 3	0.003422	0.003422	ug/l	57.13	#VALUE!		73.34	93.34	120.00
60 Ni # 2	-0.004668	-0.004668	ug/l	200.09	#VALUE!		26.67	44.44	35.56
63 Cu # 2	-0.08511	-0.08511	ug/l	5.43	#VALUE!		114.45	123.33	137.78
66 Zn # 3	-0.0398	-0.0398	ug/l	107.16	#VALUE!		506.69	370.01	453.35
75 As # 2	0.002708	0.002708	ug/l	52.07	#VALUE!		13.00	12.33	12.33
78 Se # 1	-0.03335	-0.03335	ug/l	11.97	#VALUE!		9.33	10.00	8.33
88 Sr # 3	0.001913	0.001913	ug/l	40.05	#VALUE!		156.67	163.34	190.01
95 Mo # 3	0.02917	0.02917	ug/l	44.77	#VALUE!		243.34	166.67	170.01
107 Ag # 3	0.0008834	0.0008834	ug/l	93.59	#VALUE!		113.34	116.67	103.34
111 Cd # 3	0.002811	0.002811	ug/l	170.86	#VALUE!		16.61	-0.04	16.63
118 Sn # 3	0.01111	0.01111	ug/l	97.75	#VALUE!		710.04	693.37	590.03
121 Sb # 3	0.02185	0.02185	ug/l	17.51	#VALUE!		226.68	196.67	170.01
137 Ba # 3	0.006982	0.006982	ug/l	58.74	#VALUE!		66.67	40.00	60.00
202 Hg # 3	0.0165	0.0165	ug/l	39.22	#VALUE!		142.00	159.67	126.67
205 Tl # 3	-0.002305	-0.002305	ug/l	28.21	#VALUE!		123.34	100.00	103.34
208 Pb # 3	-0.01902	-0.01902	ug/l	15.35	#VALUE!		496.69	680.03	590.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	326080.69	0.20	442436.88	73.7	60 - 125		325339.91	326407.22	326495.06
45 Sc # 1	331951.28	0.39	456299.72	72.7	60 - 125		331200.81	333445.72	331207.28
45 Sc # 3	575422.13	0.39	765061.25	75.2	60 - 125		576084.31	572920.63	577261.38
74 Ge # 1	118745.42	0.38	153441.28	77.4	60 - 125		118322.88	119211.73	118701.65
74 Ge # 2	36325.00	0.26	47804.94	76.0	60 - 125		36314.92	36424.18	36235.91
74 Ge # 3	178795.50	0.89	224564.78	79.6	60 - 125		176976.58	179494.58	179915.34
89 Y # 3	1062307.30	1.39	1302847.50	81.5	60 - 125		1045550.60	1068073.50	1073297.80
115 In # 3	1115192.90	0.68	1366177.60	81.6	60 - 125		1116234.40	1107108.10	1122236.30
159 Tb # 3	1596488.30	1.24	2052817.90	77.8	60 - 125		1573618.10	1606732.30	1609114.50
209 Bi # 3	1004039.30	1.17	1405468.50	71.4	60 - 125		993114.88	1002476.30	1016526.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\067SMPL.D\067SMPL.D#
 Date Acquired: Aug 26 2014 04:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-10-a
 Misc Info: 3050 1/20
 Vial Number: 4309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	4.42	1.105	ug/l	0.65	100.00		1550.10	1576.77	1583.44
11 B # 3	7	1.75	ug/l	4.96	1800.00		3730.46	3863.81	3677.09
23 Na # 1	41.52	10.38	ug/l	3.06	81000.00		104900.63	105892.41	105744.97
24 Mg # 1	2224.4	556.1	ug/l	0.71	81000.00		1087280.10	1085611.10	1072180.90
27 Al # 1	29968	7492	ug/l	0.37	81000.00		17294694.00	17311738.00	17249724.00
39 K # 2	1888.4	472.1	ug/l	0.94	81000.00		138393.20	139286.34	137968.91
40 Ca # 1	13528	3382	ug/l	0.47	81000.00		18078284.00	18128254.00	18036634.00
47 Ti # 3	232.44	58.11	ug/l	0.54	1620.00		53232.65	52701.10	53229.26
51 V # 2	146.68	36.67	ug/l	0.88	1800.00		78348.11	77542.51	77137.52
52 Cr # 2	143.08	35.77	ug/l	0.90	1800.00		91666.88	92362.52	91473.68
55 Mn # 3	7276	1819	ug/l	1.16	1800.00	Fail	27970252.00	27588998.00	27831782.00
56 Fe # 1	129240	32310	ug/l	0.70	81000.00		224303700.00	226001360.00	225275860.00
59 Co # 3	60.92	15.23	ug/l	0.62	1800.00		176484.34	176794.38	175445.88
60 Ni # 2	31.88	7.97	ug/l	0.41	1800.00		7586.04	7602.74	7631.62
63 Cu # 2	36.536	9.134	ug/l	1.19	1800.00		23909.98	24326.08	24153.66
66 Zn # 3	372.76	93.19	ug/l	0.47	1800.00		157246.28	157384.17	157047.61
75 As # 2	54.48	13.62	ug/l	1.28	100.00		3793.40	3822.74	3753.39
78 Se # 1	1.5352	0.3838	ug/l	8.59	100.00		99.67	88.00	98.00
88 Sr # 3	27.64	6.91	ug/l	0.75	1800.00		170151.67	169687.25	169786.61
95 Mo # 3	4.468	1.117	ug/l	4.43	1800.00		3890.54	3610.48	3837.19
107 Ag # 3	0.27264	0.06816	ug/l	7.84	100.00		756.71	676.70	760.04
111 Cd # 3	0.902	0.2255	ug/l	10.63	100.00		399.16	469.23	495.84
118 Sn # 3	5.176	1.294	ug/l	1.86	1800.00		8795.81	8579.01	8709.12
121 Sb # 3	1.2632	0.3158	ug/l	5.34	100.00		2506.92	2426.90	2276.88
137 Ba # 3	336.08	84.02	ug/l	0.74	1800.00		278721.94	280679.72	277342.50
202 Hg # 3	0.09764	0.02441	ug/l	7.43	5.00		163.33	165.67	171.33
205 Tl # 3	0.6536	0.1634	ug/l	3.45	20.00		3607.20	3847.25	3873.94
208 Pb # 3	321.68	80.42	ug/l	1.52	1800.00		2431580.30	2419969.50	2417924.50
232 Th # 3	13.612	3.403	ug/l	0.87	#VALUE!		103760.41	102502.12	102444.89
238 U # 3	3.452	0.863	ug/l	2.21	#VALUE!		27719.12	26587.13	27137.98

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	328160.19	0.47	442436.88	74.2	60 - 125		326411.63	328723.69	329345.22
45 Sc # 1	360279.25	0.33	456299.72	79.0	60 - 125		361617.81	359349.81	359870.19
45 Sc # 3	619400.13	0.25	765061.25	81.0	60 - 125		618279.19	618733.38	621187.69
74 Ge # 1	118880.23	0.61	153441.28	77.5	60 - 125		118089.05	119524.09	119027.55
74 Ge # 2	36499.40	0.39	47804.94	76.4	60 - 125		36554.32	36339.44	36604.43
74 Ge # 3	178326.83	0.48	224564.78	79.4	60 - 125		177394.69	179077.20	178508.61
89 Y # 3	1264215.40	0.72	1302847.50	97.0	60 - 125		1260758.90	1257292.10	1274595.30
115 In # 3	1113602.60	0.54	1366177.60	81.5	60 - 125		1106728.80	1117357.50	1116721.60
159 Tb # 3	1633670.90	1.34	2052817.90	79.6	60 - 125		1616826.00	1658436.30	1625750.60
209 Bi # 3	1009576.60	0.14	1405468.50	71.8	60 - 125		1007932.10	1010385.80	1010411.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\068SMPL.D\068SMPL.D#
 Date Acquired: Aug 26 2014 04:09 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-11-a
 Misc Info: 3050 1/20
 Vial Number: 4310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 4.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 4.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	3.5292	0.8823	ug/l	10.89	100.00		1356.75	1083.40	1246.74
11 B #3	4.188	1.047	ug/l	4.62	1800.00		2880.29	2953.63	2910.30
23 Na #1	-11.52	-2.88	ug/l	6.45	81000.00		67147.27	67334.35	66792.67
24 Mg #1	1164	291	ug/l	1.37	81000.00		556295.25	555254.38	545989.44
27 Al #1	28728	7182	ug/l	1.21	81000.00		16275378.00	16206416.00	16003691.00
39 K #2	1279.6	319.9	ug/l	0.59	81000.00		94653.02	94445.18	94787.03
40 Ca #1	5964	1491	ug/l	1.65	81000.00		7892002.50	7781493.00	7682930.50
47 Ti #3	159.12	39.78	ug/l	1.35	1620.00		35841.43	35664.31	35527.57
51 V #2	158.72	39.68	ug/l	1.11	1800.00		82301.47	81761.35	81394.16
52 Cr #2	137.88	34.47	ug/l	1.43	1800.00		86997.27	86047.13	85502.52
55 Mn #3	3961.6	990.4	ug/l	0.22	1800.00		14938635.00	14884400.00	14916253.00
56 Fe #1	134760	33690	ug/l	1.30	81000.00		231643380.00	228369600.00	227028290.00
59 Co #3	42.68	10.67	ug/l	0.88	1800.00		120962.85	121112.86	122914.40
60 Ni #2	26.928	6.732	ug/l	0.89	1800.00		6288.89	6229.98	6266.66
63 Cu #2	16.112	4.028	ug/l	1.85	1800.00		10639.82	10615.35	10388.55
66 Zn #3	91.72	22.93	ug/l	0.57	1800.00		38718.06	38440.60	38323.88
75 As #2	50.2	12.55	ug/l	0.53	100.00		3397.32	3407.66	3398.32
78 Se #1	0.9788	0.2447	ug/l	10.45	100.00		70.00	60.33	64.67
88 Sr #3	13.872	3.468	ug/l	0.40	1800.00		80952.36	81679.23	81907.09
95 Mo #3	4.028	1.007	ug/l	5.27	1800.00		3287.07	3227.05	3547.11
107 Ag #3	0.09244	0.02311	ug/l	15.96	100.00		273.34	320.01	336.68
111 Cd #3	0.24908	0.06227	ug/l	6.49	100.00		122.61	135.96	122.56
118 Sn #3	3.1192	0.7798	ug/l	0.53	1800.00		5367.68	5354.34	5397.68
121 Sb #3	0.9788	0.2447	ug/l	0.84	100.00		1846.82	1843.49	1816.82
137 Ba #3	146.24	36.56	ug/l	0.64	1800.00		118534.23	119121.12	119641.88
202 Hg #3	0.09204	0.02301	ug/l	13.07	5.00		165.67	152.67	162.34
205 Tl #3	0.3874	0.09685	ug/l	1.88	20.00		2210.22	2280.23	2300.25
208 Pb #3	80.64	20.16	ug/l	0.51	1800.00		596683.50	598037.13	597606.88
232 Th #3	16.784	4.196	ug/l	0.42	#VALUE!		125126.56	127498.98	126729.95
238 U #3	3.3612	0.8403	ug/l	2.32	#VALUE!		26380.05	25989.30	26683.88

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	321708.66	0.83	442436.88	72.7	60 - 125		321259.59	319284.72	324581.66
45 Sc #1	351435.16	0.35	456299.72	77.0	60 - 125		350776.72	350679.59	352849.13
45 Sc #3	608122.94	0.90	765061.25	79.5	60 - 125		602285.44	608959.88	613123.63
74 Ge #1	116114.68	0.47	153441.28	75.7	60 - 125		115500.32	116558.33	116285.41
74 Ge #2	35534.19	0.54	47804.94	74.3	60 - 125		35326.37	35567.97	35708.23
74 Ge #3	175686.92	0.04	224564.78	78.2	60 - 125		175610.36	175741.69	175708.73
89 Y #3	1207640.60	0.60	1302847.50	92.7	60 - 125		1202373.60	1204580.40	1215967.80
115 In #3	1092849.00	0.21	1366177.60	80.0	60 - 125		1095411.30	1091201.50	1091934.30
159 Tb #3	1604610.10	0.62	2052817.90	78.2	60 - 125		1595300.60	1615140.10	1603389.50
209 Bi #3	1006529.40	1.29	1405468.50	71.6	60 - 125		993740.69	1019779.40	1006068.20

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\069SMPL.D\069SMPL.D#
 Date Acquired: Aug 26 2014 04:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-12-a
 Misc Info: 3050 1/50
 Vial Number: 4311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 10.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 10.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	7.13	0.713	ug/l	5.78	100.00		913.38	1000.05	1023.38
11 B #3	4.584	0.4584	ug/l	14.37	1800.00		2286.86	2146.85	2283.52
23 Na #1	-103.8	-10.38	ug/l	1.34	81000.00		45524.44	45013.11	45190.16
24 Mg #1	1322	132.2	ug/l	0.44	81000.00		243010.80	243318.28	242851.53
27 Al #1	43220	4322	ug/l	1.41	81000.00		9366558.00	9525178.00	9310200.00
39 K #2	965.3	96.53	ug/l	0.92	81000.00		34525.58	34602.18	34899.61
40 Ca #1	4828	482.8	ug/l	0.51	81000.00		2430232.00	2445861.50	2472616.30
47 Ti #3	203	20.3	ug/l	1.06	1620.00		17591.95	17792.17	17775.49
51 V #2	372.1	37.21	ug/l	0.92	1800.00		75189.76	74889.53	74225.90
52 Cr #2	301.4	30.14	ug/l	0.58	1800.00		73882.51	73310.29	73183.20
55 Mn #3	6056	605.6	ug/l	0.61	1800.00		8949747.00	8894355.00	9011453.00
56 Fe #1	327800	32780	ug/l	0.50	81000.00		214496740.00	216225820.00	215287420.00
59 Co #3	74.93	7.493	ug/l	1.07	1800.00		83749.39	82901.74	85108.66
60 Ni #2	45.54	4.554	ug/l	0.90	1800.00		4148.28	4153.83	4118.28
63 Cu #2	18.15	1.815	ug/l	3.15	1800.00		4818.44	4927.37	4689.52
66 Zn #3	130.7	13.07	ug/l	2.20	1800.00		21499.65	22067.09	21676.58
75 As #2	112.2	11.22	ug/l	2.06	100.00		2953.58	3014.59	2925.91
78 Se #1	1.102	0.1102	ug/l	4.12	100.00		37.67	36.33	37.67
88 Sr #3	13.4	1.34	ug/l	0.76	1800.00		29518.25	29387.95	29821.91
95 Mo #3	8.945	0.8945	ug/l	1.80	1800.00		2950.33	3013.67	2950.33
107 Ag #3	0.0343	0.00343	ug/l	52.57	100.00		143.34	136.67	113.34
111 Cd #3	0.4668	0.04668	ug/l	13.09	100.00		109.35	86.01	92.69
118 Sn #3	3.029	0.3029	ug/l	2.52	1800.00		2390.23	2403.58	2493.59
121 Sb #3	2.279	0.2279	ug/l	1.84	100.00		1666.80	1713.48	1723.48
137 Ba #3	351.6	35.16	ug/l	0.71	1800.00		113077.00	113989.77	114523.33
202 Hg #3	0.164	0.0164	ug/l	12.42	5.00		144.67	136.67	144.67
205 Tl #3	0.6052	0.06052	ug/l	3.36	20.00		1476.79	1416.78	1490.12
208 Pb #3	112.9	11.29	ug/l	0.59	1800.00		331659.03	331543.25	333036.66
232 Th #3	26.02	2.602	ug/l	0.41	#VALUE!		77689.42	78040.99	78047.12
238 U #3	8.721	0.8721	ug/l	2.04	#VALUE!		27375.04	26643.86	27448.54

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	317121.53	0.54	442436.88	71.7	60 - 125		316887.34	315542.88	318934.41
45 Sc #1	339619.78	0.38	456299.72	74.4	60 - 125		338598.44	339206.44	341054.50
45 Sc #3	590419.75	1.10	765061.25	77.2	60 - 125		587260.25	586096.88	597902.19
74 Ge #1	113943.95	0.39	153441.28	74.3	60 - 125		113936.07	114391.05	113504.72
74 Ge #2	34626.90	0.54	47804.94	72.4	60 - 125		34741.94	34411.32	34727.46
74 Ge #3	172480.48	0.81	224564.78	76.8	60 - 125		173652.38	170930.89	172858.17
89 Y #3	1130951.60	0.88	1302847.50	86.8	60 - 125		1120382.10	1132450.60	1140022.40
115 In #3	1086230.00	0.55	1366177.60	79.5	60 - 125		1086641.00	1080075.40	1091973.50
159 Tb #3	1590474.90	0.62	2052817.90	77.5	60 - 125		1579115.60	1597151.40	1595157.60
209 Bi #3	999448.19	0.67	1405468.50	71.1	60 - 125		991709.25	1003602.50	1003032.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\070SMPL.D\070SMPL.D#
 Date Acquired: Aug 26 2014 04:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-13-a
 Misc Info: 3050 1/50
 Vial Number: 4312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 10.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 10.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	5.979	0.5979	ug/l	4.33	100.00		850.04	830.04	776.70
11 B #3	3.454	0.3454	ug/l	5.54	1800.00		2113.51	2090.16	2130.18
23 Na #1	-100.9	-10.09	ug/l	1.94	81000.00		46128.95	45815.22	45240.28
24 Mg #1	1422	142.2	ug/l	0.11	81000.00		259086.33	260777.27	259896.22
27 Al #1	40490	4049	ug/l	0.60	81000.00		8722360.00	8746436.00	8801972.00
39 K #2	1106	110.6	ug/l	3.63	81000.00		38459.78	38239.27	39311.50
40 Ca #1	5303	530.3	ug/l	0.30	81000.00		2663865.50	2693931.30	2662999.30
47 Ti #3	198.6	19.86	ug/l	1.25	1620.00		17191.65	16994.75	17505.22
51 V #2	301.8	30.18	ug/l	1.79	1800.00		61463.50	61005.48	61296.30
52 Cr #2	246.6	24.66	ug/l	0.86	1800.00		60317.79	61196.05	60627.59
55 Mn #3	5107	510.7	ug/l	0.31	1800.00		7459633.00	7519695.00	7580947.50
56 Fe #1	270300	27030	ug/l	0.25	81000.00		175979730.00	176922210.00	176815170.00
59 Co #3	96.12	9.612	ug/l	0.30	1800.00		106655.67	107333.02	107630.87
60 Ni #2	42.69	4.269	ug/l	1.69	1800.00		3832.66	3978.24	3950.46
63 Cu #2	20.11	2.011	ug/l	4.91	1800.00		5351.93	5166.32	5514.20
66 Zn #3	145.5	14.55	ug/l	2.32	1800.00		24473.60	23735.78	23966.19
75 As #2	93.57	9.357	ug/l	1.95	100.00		2500.18	2483.18	2508.51
78 Se #1	0.8739	0.08739	ug/l	2.71	100.00		32.67	33.33	32.00
88 Sr #3	13.86	1.386	ug/l	1.32	1800.00		30593.50	30155.91	30162.49
95 Mo #3	7.722	0.7722	ug/l	3.94	1800.00		2473.58	2673.60	2516.92
107 Ag #3	0.06922	0.006922	ug/l	45.74	100.00		166.67	130.00	186.67
111 Cd #3	0.3407	0.03407	ug/l	40.24	100.00		99.46	56.08	56.12
118 Sn #3	3.288	0.3288	ug/l	6.09	1800.00		2453.59	2496.92	2743.64
121 Sb #3	1.827	0.1827	ug/l	4.55	100.00		1390.10	1300.08	1383.43
137 Ba #3	186.6	18.66	ug/l	1.55	1800.00		59839.15	59681.83	60120.18
202 Hg #3	0.1427	0.01427	ug/l	22.99	5.00		130.67	132.67	147.00
205 Tl #3	0.4172	0.04172	ug/l	20.74	20.00		960.07	936.72	1277.22
208 Pb #3	160.4	16.04	ug/l	0.34	1800.00		469881.41	472521.44	474004.22
232 Th #3	25.66	2.566	ug/l	0.18	#VALUE!		76395.59	76768.47	76888.33
238 U #3	6.671	0.6671	ug/l	0.84	#VALUE!		20751.27	20517.57	20938.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	316270.16	0.57	442436.88	71.5	60 - 125		318338.63	314924.25	315547.63
45 Sc #1	337680.25	0.41	456299.72	74.0	60 - 125		336526.50	339194.72	337319.56
45 Sc #3	586576.63	0.74	765061.25	76.7	60 - 125		582095.81	586928.69	590705.25
74 Ge #1	113791.03	0.66	153441.28	74.2	60 - 125		113532.76	114631.83	113208.52
74 Ge #2	34958.63	1.45	47804.94	73.1	60 - 125		34719.66	35541.23	34615.00
74 Ge #3	171798.14	0.75	224564.78	76.5	60 - 125		170327.77	172369.88	172696.80
89 Y #3	1120342.00	0.53	1302847.50	86.0	60 - 125		1114425.10	1120363.60	1126237.10
115 In #3	1076367.00	1.68	1366177.60	78.8	60 - 125		1056684.50	1080092.30	1092324.10
159 Tb #3	1592355.10	0.71	2052817.90	77.6	60 - 125		1579269.30	1598973.10	1598822.90
209 Bi #3	997313.44	0.40	1405468.50	71.0	60 - 125		993801.56	996470.38	1001668.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\071_QCS.D\071_QCS.D#
 Date Acquired: Aug 26 2014 04:31 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.08 ug/l	22.03	0.10 69.5 - 130	
11 B	18.51 ug/l	0.99	20.00 69.5 - 130	
23 Na	40.69 ug/l	1.07	50.00 69.5 - 130	
24 Mg	55.27 ug/l	0.96	50.00 69.5 - 130	
27 Al	11.31 ug/l	1.18	10.00 69.5 - 130	
39 K	35.14 ug/l	1.37	50.00 69.5 - 130	
40 Ca	57.54 ug/l	0.97	50.00 69.5 - 130	
47 Ti	0.93 ug/l	11.54	1.00 69.5 - 130	
51 V	0.92 ug/l	1.53	1.00 69.5 - 130	
52 Cr	0.95 ug/l	1.40	1.00 69.5 - 130	
55 Mn	1.31 ug/l	2.16	1.00 69.5 - 130	Fail
56 Fe	27.52 ug/l	1.31	20.00 69.5 - 130	Fail
59 Co	0.09 ug/l	3.89	0.10 69.5 - 130	
60 Ni	0.95 ug/l	5.42	1.00 69.5 - 130	
63 Cu	0.86 ug/l	1.66	1.00 69.5 - 130	
66 Zn	3.68 ug/l	1.03	4.00 69.5 - 130	
75 As	0.51 ug/l	0.76	0.50 69.5 - 130	
78 Se	0.44 ug/l	6.53	0.50 69.5 - 130	
88 Sr	0.19 ug/l	2.58	0.20 69.5 - 130	
95 Mo	0.94 ug/l	5.12	1.00 69.5 - 130	
107 Ag	0.19 ug/l	2.77	0.20 69.5 - 130	
111 Cd	0.08 ug/l	21.41	0.10 69.5 - 130	
118 Sn	0.94 ug/l	2.32	1.00 69.5 - 130	
121 Sb	0.96 ug/l	2.31	1.00 69.5 - 130	
137 Ba	1.01 ug/l	6.38	1.00 69.5 - 130	
202 Hg	0.14 ug/l	0.18	0.16 69.5 - 130	
205 Tl	0.19 ug/l	3.90	0.20 69.5 - 130	
208 Pb	0.27 ug/l	0.24	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	310881.63	0.53	442436.88	70.3	60 - 125	
45 Sc	314858.84	0.66	456299.72	69.0	60 - 125	
45 Sc	545877.44	0.34	765061.25	71.4	60 - 125	
74 Ge	112764.63	0.31	153441.28	73.5	60 - 125	
74 Ge	34382.75	1.10	47804.94	71.9	60 - 125	
74 Ge	170823.94	0.55	224564.78	76.1	60 - 125	
89 Y	1020720.30	0.43	1302847.50	78.3	60 - 125	
115 In	1068080.30	0.20	1366177.60	78.2	60 - 125	
159 Tb	1564303.10	1.36	2052817.90	76.2	60 - 125	
209 Bi	981381.25	0.07	1405468.50	69.8	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

2 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\072_CCV.D\072_CCV.D#
 Date Acquired: Aug 26 2014 04:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.41 ug/l	0.91	50.00	89.5 - 110		68740.52	70001.27	69399.08
11 B	93.29 ug/l	1.07	100.00	89.5 - 110		103897.78	105658.17	104572.82
23 Na	5161 ug/l	0.28	5000.00	89.5 - 110		12865994.00	12997610.00	13084929.00
24 Mg	5066 ug/l	0.45	5000.00	89.5 - 110		8830234.00	8868067.00	8971992.00
27 Al	531 ug/l	1.08	500.00	89.5 - 110		1107786.50	1095872.10	1118064.80
39 K	5078 ug/l	5.01	5000.00	89.5 - 110		1312305.60	1337304.60	1331709.00
40 Ca	5307 ug/l	0.10	5000.00	89.5 - 110		25401812.00	25665996.00	25743242.00
47 Ti	51.1 ug/l	0.69	50.00	89.5 - 110		43751.53	44760.53	44540.04
51 V	50.32 ug/l	6.33	50.00	89.5 - 110		102121.10	101519.93	101466.38
52 Cr	49.86 ug/l	5.93	50.00	89.5 - 110		122109.27	122150.81	122201.56
55 Mn	500.9 ug/l	1.68	500.00	89.5 - 110		7748821.50	7755922.50	7794380.00
56 Fe	5502 ug/l	0.39	5000.00	89.5 - 110		34361416.00	34579188.00	34937172.00
59 Co	49.21 ug/l	1.18	50.00	89.5 - 110		572964.44	580428.31	579789.19
60 Ni	51.37 ug/l	5.78	50.00	89.5 - 110		46523.68	46647.33	46679.65
63 Cu	50.27 ug/l	6.41	50.00	89.5 - 110		125906.51	125068.36	124894.99
66 Zn	48.14 ug/l	1.42	50.00	89.5 - 110		82096.50	82273.11	83586.52
75 As	52.03 ug/l	5.91	50.00	89.5 - 110		13788.53	13723.15	13873.93
78 Se	50.59 ug/l	0.39	50.00	89.5 - 110		10166.52	10202.86	10222.88
88 Sr	49.02 ug/l	1.40	50.00	89.5 - 110		1012086.30	1033101.40	1040526.80
95 Mo	49.79 ug/l	0.52	50.00	89.5 - 110		162144.17	164983.48	165417.69
107 Ag	48.06 ug/l	0.37	50.00	89.5 - 110		438080.19	443968.78	446664.69
111 Cd	48.08 ug/l	0.37	50.00	89.5 - 110		95451.39	95450.66	96294.44
118 Sn	49.01 ug/l	0.29	50.00	89.5 - 110		304134.50	307519.28	309799.41
121 Sb	48.28 ug/l	0.55	50.00	89.5 - 110		358939.78	364711.91	362991.56
137 Ba	49.3 ug/l	0.16	50.00	89.5 - 110		162750.53	163460.58	164426.52
202 Hg	2.532 ug/l	0.98	2.50	89.5 - 110		6601.38	6740.44	6638.40
205 Tl	9.432 ug/l	0.83	10.00	89.5 - 110		204717.83	208289.39	207699.34
208 Pb	47.39 ug/l	0.29	50.00	89.5 - 110		1409921.90	1419064.80	1418917.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	324590.22	1.33	442436.88	73.4	60 - 125		319756.44	325907.81	328106.41
45 Sc	325288.84	0.60	456299.72	71.3	60 - 125		323081.88	325963.22	326821.38
45 Sc	588762.00	1.07	765061.25	77.0	60 - 125		582046.56	589680.13	594559.25
74 Ge	116055.32	0.28	153441.28	75.6	60 - 125		115920.67	116425.09	115820.20
74 Ge	34930.99	5.76	47804.94	73.1	60 - 125		32612.74	35964.38	36215.86
74 Ge	180929.92	1.86	224564.78	80.6	60 - 125		177061.02	182507.42	183221.33
89 Y	1079970.50	0.06	1302847.50	82.9	60 - 125		1079689.80	1079534.10	1080687.80
115 In	1112829.10	0.64	1366177.60	81.5	60 - 125		1105374.00	1113521.50	1119592.10
159 Tb	1619087.50	0.11	2052817.90	78.9	60 - 125		1617471.30	1621066.60	1618724.60
209 Bi	994490.69	0.22	1405468.50	70.8	60 - 125		993491.94	997008.75	992971.44

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\073_CCB.D\073_CCB.D#
 Date Acquired: Aug 26 2014 04:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003337	0.003337	ug/l	80.91	#VALUE!		3.33	10.00	3.33
11 B # 3	1.409	1.409	ug/l	8.55	#VALUE!		3353.71	3520.40	3240.36
23 Na # 1	-12.4	-12.4	ug/l	0.90	#VALUE!		39320.68	39113.60	38872.97
24 Mg # 1	-0.006031	-0.006031	ug/l	620.63	#VALUE!		866.72	773.37	740.04
27 Al # 1	-0.04589	-0.04589	ug/l	24.76	#VALUE!		1143.39	1123.40	1096.73
39 K # 2	-12.58	-12.58	ug/l	4.10	#VALUE!		6918.12	6901.45	6744.73
40 Ca # 1	0.5524	0.5524	ug/l	10.60	#VALUE!		21986.62	21639.51	22009.98
47 Ti # 3	-0.07362	-0.07362	ug/l	13.49	#VALUE!		30.00	13.33	23.33
51 V # 2	-0.01981	-0.01981	ug/l	51.19	#VALUE!		161.11	120.00	144.45
52 Cr # 2	-0.01639	-0.01639	ug/l	33.20	#VALUE!		205.56	215.56	235.56
55 Mn # 3	0.04045	0.04045	ug/l	27.94	#VALUE!		1686.79	1730.14	2020.17
56 Fe # 1	1.105	1.105	ug/l	5.90	#VALUE!		10236.47	10099.70	10846.84
59 Co # 3	0.0009099	0.0009099	ug/l	110.56	#VALUE!		56.67	63.34	80.00
60 Ni # 2	-0.01828	-0.01828	ug/l	60.89	#VALUE!		14.44	34.44	18.89
63 Cu # 2	-0.09263	-0.09263	ug/l	3.02	#VALUE!		106.67	111.11	97.78
66 Zn # 3	-0.1108	-0.1108	ug/l	19.54	#VALUE!		283.34	356.68	336.68
75 As # 2	-0.002356	-0.002356	ug/l	756.37	#VALUE!		7.33	16.67	9.33
78 Se # 1	-0.03965	-0.03965	ug/l	8.65	#VALUE!		8.67	7.33	7.67
88 Sr # 3	0.0009291	0.0009291	ug/l	180.17	#VALUE!		110.00	163.34	180.01
95 Mo # 3	0.03169	0.03169	ug/l	13.99	#VALUE!		216.67	200.01	186.67
107 Ag # 3	-0.00234	-0.00234	ug/l	56.50	#VALUE!		80.00	93.34	70.00
111 Cd # 3	6.159E-005	6.159E-005	ug/l	3182.30	#VALUE!		3.29	9.96	3.29
118 Sn # 3	0.008138	0.008138	ug/l	100.61	#VALUE!		706.70	603.36	623.36
121 Sb # 3	0.02411	0.02411	ug/l	29.72	#VALUE!		260.02	153.34	230.01
137 Ba # 3	-0.001009	-0.001009	ug/l	375.02	#VALUE!		23.33	20.00	43.33
202 Hg # 3	0.0142	0.0142	ug/l	19.85	#VALUE!		133.67	131.67	144.67
205 Tl # 3	-0.002094	-0.002094	ug/l	20.48	#VALUE!		120.00	116.67	103.34
208 Pb # 3	-0.01874	-0.01874	ug/l	2.17	#VALUE!		583.36	593.36	610.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	327589.53	0.34	442436.88	74.0	60 - 125		326468.50	328707.78	327592.34
45 Sc # 1	332409.69	0.38	456299.72	72.8	60 - 125		331484.75	333847.69	331896.50
45 Sc # 3	579753.88	0.46	765061.25	75.8	60 - 125		578135.94	582835.13	578290.63
74 Ge # 1	118220.58	0.12	153441.28	77.0	60 - 125		118074.41	118351.89	118235.45
74 Ge # 2	36154.30	0.70	47804.94	75.6	60 - 125		35890.81	36180.25	36391.84
74 Ge # 3	179711.27	0.48	224564.78	80.0	60 - 125		178756.80	179940.64	180436.34
89 Y # 3	1070988.30	1.45	1302847.50	82.2	60 - 125		1053298.10	1082480.50	1077186.00
115 In # 3	1112129.50	0.68	1366177.60	81.4	60 - 125		1118246.90	1103725.50	1114415.90
159 Tb # 3	1593423.60	1.04	2052817.90	77.6	60 - 125		1575990.30	1609045.10	1595235.40
209 Bi # 3	1006829.40	0.63	1405468.50	71.6	60 - 125		1000086.80	1012785.00	1007616.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\074SMPL.D\074SMPL.D#
 Date Acquired: Aug 26 2014 04:53 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345843_1-a
 Misc Info: 3005 1/5
 Vial Number: 2101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001779	0.001779	ug/l	132.27	100.00		0.00	3.33	6.67
11 B # 3	0.8668	0.8668	ug/l	23.33	1800.00		2910.30	2813.61	2953.63
23 Na # 1	-11.55	-11.55	ug/l	0.84	81000.00		42022.94	41772.40	41758.92
24 Mg # 1	0.2109	0.2109	ug/l	13.13	81000.00		1253.41	1176.73	1166.73
27 Al # 1	0.9019	0.9019	ug/l	2.64	81000.00		3220.37	3127.02	3200.36
39 K # 2	-10.88	-10.88	ug/l	57.36	81000.00		7148.24	7241.59	7431.68
40 Ca # 1	3.321	3.321	ug/l	3.08	81000.00		35343.84	36235.21	36482.36
47 Ti # 3	-0.005034	-0.005034	ug/l	681.96	1620.00		56.67	103.35	86.67
51 V # 2	0.07063	0.07063	ug/l	48.68	1800.00		313.34	342.23	335.56
52 Cr # 2	0.001611	0.001611	ug/l	1321.50	1800.00		285.56	254.45	252.23
55 Mn # 3	0.02611	0.02611	ug/l	29.53	1800.00		1693.46	1533.44	1673.46
56 Fe # 1	0.6711	0.6711	ug/l	2.54	81000.00		7618.42	7651.79	7858.56
59 Co # 3	-0.001871	-0.001871	ug/l	57.24	1800.00		23.33	43.33	36.67
60 Ni # 2	0.02896	0.02896	ug/l	86.60	1800.00		54.45	66.67	76.67
63 Cu # 2	-0.06815	-0.06815	ug/l	10.72	1800.00		164.45	192.23	154.45
66 Zn # 3	0.1588	0.1588	ug/l	38.29	1800.00		786.70	746.70	870.05
75 As # 2	0.0382	0.0382	ug/l	37.09	100.00		19.67	26.00	21.67
78 Se # 1	-0.05148	-0.05148	ug/l	28.07	100.00		9.00	4.33	3.33
88 Sr # 3	0.001257	0.001257	ug/l	51.30	1800.00		166.67	156.67	160.01
95 Mo # 3	-0.005301	-0.005301	ug/l	108.70	1800.00		113.34	80.00	56.67
107 Ag # 3	-0.003582	-0.003582	ug/l	100.00	100.00		43.33	100.00	66.67
111 Cd # 3	0.0006425	0.0006425	ug/l	296.50	100.00		3.31	6.65	9.99
118 Sn # 3	0.01324	0.01324	ug/l	89.12	1800.00		696.70	680.03	706.70
121 Sb # 3	0.007326	0.007326	ug/l	42.26	100.00		116.67	60.00	100.00
137 Ba # 3	0.004934	0.004934	ug/l	109.28	1800.00		33.33	53.34	60.00
202 Hg # 3	-0.01303	-0.01303	ug/l	31.40	5.00		70.00	61.00	76.00
205 Tl # 3	-0.00477	-0.00477	ug/l	10.76	20.00		50.00	60.00	60.00
208 Pb # 3	-0.01062	-0.01062	ug/l	105.46	1800.00		613.36	1151.64	763.37
232 Th # 3	0.0307	0.0307	ug/l	12.95	#VALUE!		1230.09	1113.41	1223.42
238 U # 3	0.0003421	0.0003421	ug/l	66.27	#VALUE!		30.00	40.00	33.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	343939.50	8.75	442436.88	77.7	60 - 125		378662.34	325703.28	327452.91
45 Sc # 1	337075.22	0.26	456299.72	73.9	60 - 125		336195.19	337053.78	337976.69
45 Sc # 3	606539.94	12.09	765061.25	79.3	60 - 125		689387.75	580216.50	550015.56
74 Ge # 1	120118.40	0.37	153441.28	78.3	60 - 125		120428.50	119610.13	120316.55
74 Ge # 2	37127.43	20.87	47804.94	77.7	60 - 125		37060.90	44909.46	29411.94
74 Ge # 3	185220.17	9.68	224564.78	82.5	60 - 125		205916.42	174358.94	175385.19
89 Y # 3	1102062.40	11.89	1302847.50	84.6	60 - 125		1253209.00	1032178.50	1020799.70
115 In # 3	1151720.50	11.57	1366177.60	84.3	60 - 125		1305443.40	1080974.10	1068744.10
159 Tb # 3	1647135.90	11.13	2052817.90	80.2	60 - 125		1858328.30	1554187.00	1528892.30
209 Bi # 3	1061593.00	10.82	1405468.50	75.5	60 - 125		1190670.30	1023659.60	970449.13

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\075SMPL.D\075SMPL.D#
 Date Acquired: Aug 26 2014 05:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345843_2-a
 Misc Info: 3005 1/5
 Vial Number: 2102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	9.605	9.605	ug/l	4.15	100.00		14569.05	13835.21	14285.49
11 B #3	36.8	36.8	ug/l	2.40	1800.00		44885.28	44350.86	44958.99
23 Na #1	986.7	986.7	ug/l	0.92	81000.00		2696006.30	2698064.30	2674353.00
24 Mg #1	998.2	998.2	ug/l	0.43	81000.00		1863946.60	1850465.00	1856601.30
27 Al #1	1009	1009	ug/l	0.84	81000.00		2236718.80	2230928.00	2216009.50
39 K #2	937.4	937.4	ug/l	1.35	81000.00		266186.34	269639.53	268084.13
40 Ca #1	1045	1045	ug/l	0.94	81000.00		5383401.50	5363406.00	5321155.00
47 Ti #3	19.4	19.4	ug/l	3.87	1620.00		16901.36	17021.51	16854.61
51 V #2	18.56	18.56	ug/l	1.23	1800.00		39425.86	39586.16	40583.82
52 Cr #2	18.63	18.63	ug/l	0.95	1800.00		48982.73	48271.97	48327.76
55 Mn #3	100	100	ug/l	2.89	1800.00		1563311.00	1563353.00	1576805.40
56 Fe #1	1058	1058	ug/l	0.20	81000.00		7042910.00	7043891.50	7088844.00
59 Co #3	9.836	9.836	ug/l	2.91	1800.00		116239.24	117527.02	116276.48
60 Ni #2	19.58	19.58	ug/l	1.13	1800.00		18876.35	18901.90	18766.24
63 Cu #2	18.77	18.77	ug/l	0.37	1800.00		49670.88	49471.41	50200.12
66 Zn #3	18.92	18.92	ug/l	3.91	1800.00		33394.22	32936.72	33046.97
75 As #2	19.8	19.8	ug/l	1.27	100.00		5532.18	5600.87	5570.19
78 Se #1	20.14	20.14	ug/l	1.22	100.00		4274.85	4165.15	4254.51
88 Sr #3	17.76	17.76	ug/l	3.39	1800.00		375108.75	378780.72	378578.31
95 Mo #3	18.95	18.95	ug/l	4.15	1800.00		63316.43	63520.57	62868.17
107 Ag #3	9.6	9.6	ug/l	4.07	100.00		89701.90	89259.75	89641.56
111 Cd #3	9.45	9.45	ug/l	4.29	100.00		19110.40	18793.27	19180.46
118 Sn #3	38.29	38.29	ug/l	4.04	1800.00		243169.77	241592.55	243639.31
121 Sb #3	9.42	9.42	ug/l	4.11	100.00		71598.51	71581.84	71260.07
137 Ba #3	18.69	18.69	ug/l	3.74	1800.00		62615.73	62395.02	63151.21
202 Hg #3	0.8403	0.8403	ug/l	3.77	5.00		2274.83	2245.17	2306.18
205 Tl #3	7.238	7.238	ug/l	4.00	20.00		159389.61	156352.84	160023.44
208 Pb #3	9.28	9.28	ug/l	3.73	1800.00		278545.59	278306.19	276560.91
232 Th #3	10.01	10.01	ug/l	3.09	#VALUE!		301619.63	302480.97	303195.00
238 U #3	9.687	9.687	ug/l	3.27	#VALUE!		304627.66	304126.63	305521.31

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	342625.97	2.15	442436.88	77.4	60 - 125		334839.75	343585.41	349452.75
45 Sc #1	344708.16	0.42	456299.72	75.5	60 - 125		344628.22	343290.19	346205.97
45 Sc #3	590427.13	3.82	765061.25	77.2	60 - 125		564455.81	601531.31	605294.31
74 Ge #1	120667.55	0.22	153441.28	78.6	60 - 125		120975.38	120468.78	120558.52
74 Ge #2	36923.60	0.78	47804.94	77.2	60 - 125		36996.35	36605.52	37168.92
74 Ge #3	182828.77	3.09	224564.78	81.4	60 - 125		176335.98	185581.52	186568.77
89 Y #3	1094703.90	3.85	1302847.50	84.0	60 - 125		1046517.10	1112648.10	1124946.40
115 In #3	1126394.00	3.85	1366177.60	82.4	60 - 125		1076932.90	1144256.30	1157993.00
159 Tb #3	1618301.00	3.38	2052817.90	78.8	60 - 125		1555187.90	1646274.40	1653440.80
209 Bi #3	1011227.30	3.28	1405468.50	71.9	60 - 125		973467.50	1024386.00	1035828.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\076SMPL.D\076SMPL.D#
 Date Acquired: Aug 26 2014 05:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-a
 Misc Info: 3005 1/5
 Vial Number: 2103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.01336	0.01336	ug/l	25.02	100.00		26.67	16.67	20.00
11 B # 3	14.19	14.19	ug/l	2.27	1800.00		18359.04	18919.49	19136.51
23 Na # 1	20780	20780	ug/l	0.37	81000.00		55609344.00	55761784.00	55639744.00
24 Mg # 1	3252	3252	ug/l	0.36	81000.00		6089690.00	6120861.50	6101017.50
27 Al # 1	38.92	38.92	ug/l	0.69	81000.00		88185.05	87712.85	88001.88
39 K # 2	1295	1295	ug/l	0.84	81000.00		373010.19	380671.28	377259.69
40 Ca # 1	4074	4074	ug/l	0.46	81000.00		21116854.00	21027150.00	20927424.00
47 Ti # 3	0.2209	0.2209	ug/l	13.86	1620.00		260.01	313.35	306.68
51 V # 2	0.2361	0.2361	ug/l	4.92	1800.00		718.91	683.35	734.46
52 Cr # 2	0.0617	0.0617	ug/l	7.49	1800.00		443.34	424.45	446.68
55 Mn # 3	6.98	6.98	ug/l	0.97	1800.00		115908.87	115103.59	116305.02
56 Fe # 1	250.6	250.6	ug/l	0.77	81000.00		1683673.30	1689604.40	1697223.10
59 Co # 3	0.02924	0.02924	ug/l	23.62	1800.00		503.35	423.35	340.01
60 Ni # 2	0.2672	0.2672	ug/l	5.33	1800.00		297.78	322.23	297.78
63 Cu # 2	0.1586	0.1586	ug/l	4.49	1800.00		793.36	770.02	811.14
66 Zn # 3	1.919	1.919	ug/l	3.59	1800.00		3873.84	3953.87	4207.27
75 As # 2	0.3061	0.3061	ug/l	12.13	100.00		101.67	89.33	111.33
78 Se # 1	-0.008894	-0.008894	ug/l	162.47	100.00		16.00	17.33	11.33
88 Sr # 3	30.66	30.66	ug/l	0.54	1800.00		676942.63	675361.44	684450.63
95 Mo # 3	0.06767	0.06767	ug/l	11.48	1800.00		360.01	303.34	340.02
107 Ag # 3	-0.003879	-0.003879	ug/l	85.64	100.00		86.67	90.00	33.33
111 Cd # 3	0.01968	0.01968	ug/l	8.83	100.00		43.26	49.93	46.59
118 Sn # 3	0.01703	0.01703	ug/l	43.65	1800.00		790.04	710.04	696.70
121 Sb # 3	0.02682	0.02682	ug/l	22.37	100.00		246.68	196.67	293.34
137 Ba # 3	5.193	5.193	ug/l	2.28	1800.00		17706.27	18320.35	18093.42
202 Hg # 3	-0.006059	-0.006059	ug/l	36.38	5.00		94.34	83.33	88.00
205 Tl # 3	0.005016	0.005016	ug/l	24.08	20.00		293.35	293.35	246.68
208 Pb # 3	0.04434	0.04434	ug/l	7.60	1800.00		2636.85	2450.16	2563.50
232 Th # 3	0.1258	0.1258	ug/l	7.79	#VALUE!		4357.42	3813.95	3920.61
238 U # 3	0.01844	0.01844	ug/l	5.27	#VALUE!		573.36	603.37	640.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	349933.78	0.72	442436.88	79.1	60 - 125		349852.19	347459.31	352489.88
45 Sc # 1	347908.91	0.47	456299.72	76.2	60 - 125		347846.34	349585.31	346295.09
45 Sc # 3	621771.06	0.54	765061.25	81.3	60 - 125		618674.19	621308.19	625330.81
74 Ge # 1	123930.93	0.35	153441.28	80.8	60 - 125		124168.89	124193.36	123430.55
74 Ge # 2	37999.52	0.80	47804.94	79.5	60 - 125		37681.07	38029.60	38287.87
74 Ge # 3	191430.64	1.38	224564.78	85.2	60 - 125		190375.41	189484.39	194432.13
89 Y # 3	1139747.80	1.11	1302847.50	87.5	60 - 125		1129560.30	1135808.80	1153874.00
115 In # 3	1163464.60	0.65	1366177.60	85.2	60 - 125		1168009.80	1154683.90	1167700.40
159 Tb # 3	1659620.10	0.37	2052817.90	80.8	60 - 125		1652997.30	1665070.40	1660792.90
209 Bi # 3	1015395.40	0.47	1405468.50	72.2	60 - 125		1012115.50	1013232.70	1020837.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\077SMPL.D\077SMPL.D#
 Date Acquired: Aug 26 2014 05:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-aSD
 Misc Info: 3005 1/25
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0009205	0.0001841	ug/l	717.00	100.00		0.00	3.33	0.00
11 B #3	2.627	0.5254	ug/l	4.02	1800.00		2446.89	2460.22	2433.55
23 Na #1	-61.8	-12.36	ug/l	3.21	81000.00		39728.04	40286.04	39998.59
24 Mg #1	0.4188	0.08376	ug/l	76.23	81000.00		916.72	1120.07	886.71
27 Al #1	1.927	0.3854	ug/l	27.09	81000.00		2180.18	2193.51	1860.14
39 K #2	-61.35	-12.27	ug/l	3.15	81000.00		7281.60	7091.55	7248.28
40 Ca #1	9.415	1.883	ug/l	16.52	81000.00		29546.95	29393.31	28034.74
47 Ti #3	-0.2701	-0.05402	ug/l	39.43	1620.00		23.33	36.67	60.00
51 V #2	-0.0964	-0.01928	ug/l	73.13	1800.00		136.67	183.34	125.56
52 Cr #2	-0.15345	-0.03069	ug/l	33.76	1800.00		157.78	203.34	207.78
55 Mn #3	0.042705	0.008541	ug/l	159.35	1800.00		1110.07	1530.15	1426.76
56 Fe #1	1.5075	0.3015	ug/l	9.12	81000.00		5340.93	5294.25	5354.24
59 Co #3	-0.012415	-0.002483	ug/l	6.46	1800.00		26.67	30.00	26.67
60 Ni #2	1.755	0.351	ug/l	5.07	1800.00		390.01	364.45	397.79
63 Cu #2	-0.44175	-0.08835	ug/l	7.23	1800.00		121.11	103.33	137.78
66 Zn #3	-0.5755	-0.1151	ug/l	10.24	1800.00		306.68	323.34	350.01
75 As #2	-0.005545	-0.001109	ug/l	641.30	100.00		12.33	9.67	13.67
78 Se #1	-0.28885	-0.05777	ug/l	7.06	100.00		3.67	5.33	4.00
88 Sr #3	0.00253	0.000506	ug/l	212.45	1800.00		130.00	173.34	133.34
95 Mo #3	-0.07315	-0.01463	ug/l	11.68	1800.00		46.67	56.67	46.67
107 Ag #3	-0.032325	-0.006465	ug/l	16.75	100.00		46.67	53.33	33.33
111 Cd #3	-0.01361	-0.002722	ug/l	0.02	100.00		-0.01	-0.01	-0.01
118 Sn #3	0.2478	0.04956	ug/l	15.73	1800.00		966.73	946.72	876.72
121 Sb #3	0.01294	0.002588	ug/l	20.05	100.00		56.67	56.67	50.00
137 Ba #3	-0.004654	-0.0009308	ug/l	103.00	1800.00		30.00	26.67	33.33
202 Hg #3	-0.031665	-0.006333	ug/l	55.41	5.00		82.33	96.34	79.33
205 Tl #3	-0.01202	-0.002404	ug/l	36.81	20.00		86.67	113.34	126.67
208 Pb #3	-0.1322	-0.02644	ug/l	1.30	1800.00		373.35	366.68	390.02
232 Th #3	0.10755	0.02151	ug/l	7.64	#VALUE!		850.05	923.39	826.72
238 U #3	-0.001114	-0.0002228	ug/l	25.77	#VALUE!		13.33	16.67	16.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	335776.06	0.76	442436.88	75.9	60 - 125		332849.69	336940.78	337537.72
45 Sc #1	339251.81	3.11	456299.72	74.3	60 - 125		327084.84	345167.31	345503.31
45 Sc #3	595539.19	0.26	765061.25	77.8	60 - 125		597253.75	595181.19	594182.69
74 Ge #1	122692.10	0.67	153441.28	80.0	60 - 125		121759.65	123013.57	123303.09
74 Ge #2	37545.97	0.23	47804.94	78.5	60 - 125		37451.69	37560.82	37625.40
74 Ge #3	184443.11	0.42	224564.78	82.1	60 - 125		183639.03	184493.05	185197.23
89 Y #3	1096923.60	0.93	1302847.50	84.2	60 - 125		1085967.30	1106162.00	1098641.80
115 In #3	1145291.50	0.33	1366177.60	83.8	60 - 125		1141744.00	1144883.30	1149247.50
159 Tb #3	1624896.50	0.87	2052817.90	79.2	60 - 125		1609844.00	1626758.60	1638067.00
209 Bi #3	1016982.70	0.75	1405468.50	72.4	60 - 125		1008315.20	1019926.10	1022706.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures 0 : Max. Number of Failures Allowed
 0 : ISTD Failures 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\078SMPL.D\078SMPL.D#
 Date Acquired: Aug 26 2014 05:23 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-aPDS
 Misc Info: 3005 1/5
 Vial Number: 2105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.31	20.31	ug/l	0.18	100.00		30901.53	31245.42	31205.20
11 B #3	51.68	51.68	ug/l	1.16	1800.00		64353.09	64429.82	63734.21
23 Na #1	24280	24280	ug/l	17.45	81000.00		63599644.00	62384820.00	63643040.00
24 Mg #1	5674	5674	ug/l	18.29	81000.00		10469865.00	10082813.00	10460622.00
27 Al #1	273.4	273.4	ug/l	18.24	81000.00		601765.19	578233.56	597508.56
39 K #2	3447	3447	ug/l	0.85	81000.00		999871.44	1002378.10	1001388.50
40 Ca #1	6638	6638	ug/l	18.12	81000.00		33571732.00	32530266.00	33656464.00
47 Ti #3	21.49	21.49	ug/l	0.92	1620.00		19764.16	20298.19	20151.39
51 V #2	20.49	20.49	ug/l	0.55	1800.00		46066.38	45912.70	46045.24
52 Cr #2	20.06	20.06	ug/l	0.43	1800.00		54692.79	54414.32	54769.80
55 Mn #3	214.6	214.6	ug/l	0.93	1800.00		3518427.00	3550577.00	3527275.00
56 Fe #1	2652	2652	ug/l	18.31	81000.00		17510726.00	16914028.00	17571420.00
59 Co #3	20.22	20.22	ug/l	0.33	1800.00		250817.86	251640.72	253266.50
60 Ni #2	20.78	20.78	ug/l	1.16	1800.00		20794.00	20991.94	20948.57
63 Cu #2	20.42	20.42	ug/l	0.73	1800.00		56486.97	56533.85	56860.34
66 Zn #3	21.44	21.44	ug/l	1.31	1800.00		38898.38	39863.80	39349.28
75 As #2	21.46	21.46	ug/l	0.57	100.00		6331.78	6234.08	6372.45
78 Se #1	21.59	21.59	ug/l	11.26	100.00		4596.26	4592.59	4632.60
88 Sr #3	51.7	51.7	ug/l	0.82	1800.00		1156591.10	1150750.90	1162955.00
95 Mo #3	20.77	20.77	ug/l	1.60	1800.00		71416.65	71674.47	71219.41
107 Ag #3	21.14	21.14	ug/l	2.24	100.00		203427.95	205376.61	200281.97
111 Cd #3	19.73	19.73	ug/l	0.94	100.00		40602.55	41243.67	41003.00
118 Sn #3	20.16	20.16	ug/l	0.97	1800.00		131033.93	132908.31	132246.97
121 Sb #3	19.9	19.9	ug/l	1.23	100.00		155048.27	156020.52	155818.00
137 Ba #3	25.57	25.57	ug/l	2.29	1800.00		89173.60	87625.08	88449.86
202 Hg #3	0.9403	0.9403	ug/l	2.82	5.00		2572.55	2706.24	2590.56
205 Tl #3	3.802	3.802	ug/l	0.07	20.00		85453.85	86475.07	87062.19
208 Pb #3	19.21	19.21	ug/l	1.22	1800.00		593769.19	596562.31	591434.44
232 Th #3	21.94	21.94	ug/l	0.58	#VALUE!		661191.56	663745.19	658305.13
238 U #3	20.68	20.68	ug/l	0.36	#VALUE!		647564.19	651947.50	647584.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	354234.44	0.69	442436.88	80.1	60 - 125		351462.66	355251.63	355989.06
45 Sc #1	345285.78	17.97	456299.72	75.7	60 - 125		317644.22	416361.47	301851.69
45 Sc #3	631876.13	0.76	765061.25	82.6	60 - 125		626802.38	632519.50	636306.56
74 Ge #1	123645.15	11.48	153441.28	80.6	60 - 125		117884.18	139821.72	113229.56
74 Ge #2	38616.02	0.73	47804.94	80.8	60 - 125		38820.20	38295.68	38732.17
74 Ge #3	191970.28	0.82	224564.78	85.5	60 - 125		190632.11	191561.56	193717.19
89 Y #3	1151533.90	0.44	1302847.50	88.4	60 - 125		1146454.00	1156503.50	1151644.00
115 In #3	1159915.30	1.53	1366177.60	84.9	60 - 125		1139671.80	1167380.00	1172694.00
159 Tb #3	1674072.90	0.99	2052817.90	81.5	60 - 125		1656478.90	1676190.40	1689549.60
209 Bi #3	1007947.60	0.64	1405468.50	71.7	60 - 125		1001511.00	1014332.70	1007999.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\079SMPL.D\079SMPL.D#
 Date Acquired: Aug 26 2014 05:30 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-b.ms
 Misc Info: 3005 1/5
 Vial Number: 2106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	10.78	10.78	ug/l	0.56	100.00		16827.58	17331.36	17297.99
11 B #3	58.02	58.02	ug/l	1.35	1800.00		73953.17	74247.84	75546.31
23 Na #1	27460	27460	ug/l	0.53	81000.00		78359512.00	77098496.00	77550464.00
24 Mg #1	5229	5229	ug/l	0.34	81000.00		10419235.00	10340607.00	10332216.00
27 Al #1	1203	1203	ug/l	0.39	81000.00		2828326.50	2832177.00	2834827.50
39 K #2	2773	2773	ug/l	0.58	81000.00		828428.75	833675.81	840501.69
40 Ca #1	6326	6326	ug/l	0.20	81000.00		34614040.00	34267380.00	34515348.00
47 Ti #3	22.03	22.03	ug/l	1.07	1620.00		21092.32	21405.94	21048.81
51 V #2	21.52	21.52	ug/l	0.54	1800.00		49550.75	50263.81	49882.76
52 Cr #2	21.27	21.27	ug/l	0.04	1800.00		59664.60	59849.63	59865.21
55 Mn #3	118	118	ug/l	1.13	1800.00		2012792.00	1991041.90	2002969.40
56 Fe #1	1521	1521	ug/l	0.40	81000.00		10892205.00	10753734.00	10791138.00
59 Co #3	10.75	10.75	ug/l	0.56	1800.00		137901.98	137794.80	138558.22
60 Ni #2	21.76	21.76	ug/l	1.50	1800.00		22479.25	22361.32	23017.68
63 Cu #2	21.12	21.12	ug/l	0.43	1800.00		60174.00	60400.19	60833.94
66 Zn #3	22.58	22.58	ug/l	0.65	1800.00		42392.88	43091.20	42693.47
75 As #2	22.65	22.65	ug/l	1.01	100.00		6942.66	6846.62	6847.96
78 Se #1	22.36	22.36	ug/l	1.18	100.00		5114.73	4996.03	5056.38
88 Sr #3	60.08	60.08	ug/l	1.21	1800.00		1368700.10	1366748.80	1374227.00
95 Mo #3	21.81	21.81	ug/l	1.64	1800.00		76966.46	76126.46	75239.30
107 Ag #3	10.51	10.51	ug/l	0.36	100.00		102028.73	103128.33	102383.81
111 Cd #3	10.45	10.45	ug/l	1.27	100.00		21583.63	22368.15	22071.21
118 Sn #3	43.09	43.09	ug/l	1.15	1800.00		287487.41	285490.38	284003.66
121 Sb #3	10.61	10.61	ug/l	0.65	100.00		84294.81	84288.46	84087.48
137 Ba #3	27.3	27.3	ug/l	0.73	1800.00		95956.41	95672.02	95721.66
202 Hg #3	0.9493	0.9493	ug/l	2.75	5.00		2680.23	2580.55	2715.58
205 Tl #3	7.865	7.865	ug/l	1.37	20.00		180206.22	178208.16	179060.25
208 Pb #3	10.04	10.04	ug/l	1.25	1800.00		313696.47	312063.13	311897.88
232 Th #3	11.32	11.32	ug/l	0.89	#VALUE!		343019.28	341704.16	340476.81
238 U #3	11.1	11.1	ug/l	1.00	#VALUE!		349730.41	349686.41	347093.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	367916.47	1.22	442436.88	83.2	60 - 125		362988.47	371776.25	368984.72
45 Sc #1	367367.97	0.32	456299.72	80.5	60 - 125		368395.78	366066.50	367641.56
45 Sc #3	650592.13	0.48	765061.25	85.0	60 - 125		647428.56	650739.88	653607.88
74 Ge #1	129930.60	0.07	153441.28	84.7	60 - 125		129982.20	129987.65	129821.95
74 Ge #2	39880.18	0.21	47804.94	83.4	60 - 125		39783.33	39934.77	39922.45
74 Ge #3	197941.52	0.69	224564.78	88.1	60 - 125		196423.48	198343.28	199057.81
89 Y #3	1173624.80	1.10	1302847.50	90.1	60 - 125		1161196.90	1186919.40	1172758.10
115 In #3	1176789.60	0.57	1366177.60	86.1	60 - 125		1169023.00	1181146.80	1180199.40
159 Tb #3	1681289.60	0.94	2052817.90	81.9	60 - 125		1664839.80	1682868.10	1696161.30
209 Bi #3	1009130.40	0.58	1405468.50	71.8	60 - 125		1006802.50	1004851.10	1015737.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\080SMPL.D\080SMPL.D#
 Date Acquired: Aug 26 2014 05:38 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-c msd
 Misc Info: 3005 i/5
 Vial Number: 2107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	10.21	10.21	ug/l	1.25	100.00		16273.76	16650.68	16393.85
11 B #3	55.44	55.44	ug/l	1.24	1800.00		72119.94	72665.27	71808.80
23 Na #1	26460	26460	ug/l	5.56	81000.00		73754760.00	73466672.00	73844304.00
24 Mg #1	5047	5047	ug/l	5.54	81000.00		9851720.00	9874972.00	9817432.00
27 Al #1	1160	1160	ug/l	5.27	81000.00		2682248.00	2695515.80	2689153.30
39 K #2	2585	2585	ug/l	0.65	81000.00		792252.75	794909.44	797517.69
40 Ca #1	6090	6090	ug/l	5.08	81000.00		32514582.00	32842510.00	32665712.00
47 Ti #3	20.98	20.98	ug/l	2.47	1620.00		20101.22	21055.63	20424.82
51 V #2	20.23	20.23	ug/l	1.60	1800.00		47483.30	47653.70	48592.77
52 Cr #2	19.76	19.76	ug/l	0.89	1800.00		56772.26	56434.70	57010.85
55 Mn #3	112.5	112.5	ug/l	1.16	1800.00		1956300.00	1926796.90	1936963.10
56 Fe #1	1454	1454	ug/l	5.81	81000.00		10215304.00	10166171.00	10153197.00
59 Co #3	10.29	10.29	ug/l	0.70	1800.00		134746.44	134203.16	133860.36
60 Ni #2	20.29	20.29	ug/l	1.37	1800.00		21247.82	21651.57	21737.24
63 Cu #2	20	20	ug/l	0.96	1800.00		58132.00	58434.14	58884.23
66 Zn #3	21.39	21.39	ug/l	0.80	1800.00		40896.06	40973.07	41567.72
75 As #2	21.29	21.29	ug/l	0.51	100.00		6572.86	6660.56	6580.86
78 Se #1	20.98	20.98	ug/l	3.80	100.00		4750.30	4696.28	4744.63
88 Sr #3	57.87	57.87	ug/l	0.42	1800.00		1333062.80	1333109.40	1340059.10
95 Mo #3	20.66	20.66	ug/l	0.89	1800.00		73086.65	73234.26	74342.01
107 Ag #3	9.892	9.892	ug/l	0.73	100.00		98277.69	98006.34	98981.10
111 Cd #3	9.908	9.908	ug/l	1.40	100.00		21394.24	21037.09	21420.69
118 Sn #3	40.64	40.64	ug/l	0.42	1800.00		272412.53	275724.97	276608.38
121 Sb #3	10.11	10.11	ug/l	0.35	100.00		81545.52	81826.50	82054.87
137 Ba #3	25.7	25.7	ug/l	0.67	1800.00		92075.32	91756.50	92084.71
202 Hg #3	0.8981	0.8981	ug/l	1.52	5.00		2598.55	2551.22	2545.21
205 Tl #3	7.427	7.427	ug/l	1.32	20.00		170886.09	172597.19	172952.78
208 Pb #3	9.482	9.482	ug/l	1.38	1800.00		300974.13	300831.44	298959.84
232 Th #3	10.87	10.87	ug/l	0.24	#VALUE!		327011.00	330383.19	330462.81
238 U #3	10.56	10.56	ug/l	0.67	#VALUE!		332338.06	333847.78	332918.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	372227.31	0.83	442436.88	84.1	60 - 125		369254.19	371992.44	375435.25
45 Sc #1	362401.06	5.32	456299.72	79.4	60 - 125		340232.09	371783.25	375187.81
45 Sc #3	661908.19	0.30	765061.25	86.5	60 - 125		660926.75	660635.69	664162.00
74 Ge #1	129629.81	3.33	153441.28	84.5	60 - 125		124647.06	132020.02	132222.36
74 Ge #2	40727.60	0.38	47804.94	85.2	60 - 125		40746.54	40873.49	40562.78
74 Ge #3	201075.91	0.39	224564.78	89.5	60 - 125		200178.77	201636.19	201412.78
89 Y #3	1187715.30	0.12	1302847.50	91.2	60 - 125		1188868.00	1188170.90	1186107.00
115 In #3	1200435.30	0.51	1366177.60	87.9	60 - 125		1193643.10	1205480.90	1202181.90
159 Tb #3	1710671.90	1.09	2052817.90	83.3	60 - 125		1715912.90	1689974.80	1726127.90
209 Bi #3	1012924.40	0.79	1405468.50	72.1	60 - 125		1003998.50	1015510.60	1019263.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\081SMPL.D\081SMPL.D#
 Date Acquired: Aug 26 2014 05:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-2-a
 Misc Info: 3005 1/5
 Vial Number: 2108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.526E-005	9.526E-005	ug/l	1225.10	100.00		0.00	3.33	0.00
11 B # 3	7.174	7.174	ug/l	1.72	1800.00		11423.63	11223.49	11536.97
23 Na # 1	4512	4512	ug/l	0.84	81000.00		13239838.00	13347666.00	13442073.00
24 Mg # 1	3519	3519	ug/l	0.11	81000.00		7268217.50	7245501.50	7248386.50
27 Al # 1	8.325	8.325	ug/l	1.37	81000.00		21485.87	21849.60	21976.63
39 K # 2	312.2	312.2	ug/l	1.52	81000.00		106445.27	104923.07	107706.34
40 Ca # 1	9649	9649	ug/l	0.67	81000.00		55116120.00	54557532.00	54317640.00
47 Ti # 3	0.1779	0.1779	ug/l	12.14	1620.00		250.01	280.01	293.34
51 V # 2	0.1602	0.1602	ug/l	6.49	1800.00		597.79	557.79	601.13
52 Cr # 2	0.03975	0.03975	ug/l	22.49	1800.00		426.68	417.79	378.90
55 Mn # 3	2.982	2.982	ug/l	1.71	1800.00		54390.12	53239.85	53156.41
56 Fe # 1	281.1	281.1	ug/l	0.53	81000.00		2083537.90	2066656.40	2093932.50
59 Co # 3	0.02151	0.02151	ug/l	12.97	1800.00		360.02	376.68	310.01
60 Ni # 2	0.2957	0.2957	ug/l	5.73	1800.00		343.34	354.45	378.90
63 Cu # 2	0.2902	0.2902	ug/l	5.86	1800.00		1223.38	1287.84	1188.94
66 Zn # 3	2.725	2.725	ug/l	5.61	1800.00		6141.18	5754.41	5617.69
75 As # 2	0.2015	0.2015	ug/l	12.11	100.00		81.67	67.33	78.33
78 Se # 1	-0.02456	-0.02456	ug/l	50.08	100.00		13.00	9.33	15.00
88 Sr # 3	55.91	55.91	ug/l	1.02	1800.00		1296054.00	1312981.50	1299303.10
95 Mo # 3	0.03304	0.03304	ug/l	27.83	1800.00		193.34	263.34	223.34
107 Ag # 3	-0.005459	-0.005459	ug/l	4.11	100.00		60.00	56.67	56.67
111 Cd # 3	0.003344	0.003344	ug/l	79.13	100.00		9.96	9.94	19.95
118 Sn # 3	0.02054	0.02054	ug/l	57.84	1800.00		830.05	856.71	700.04
121 Sb # 3	0.02376	0.02376	ug/l	13.93	100.00		220.01	266.68	213.34
137 Ba # 3	10.75	10.75	ug/l	1.06	1800.00		39088.84	39169.21	39603.43
202 Hg # 3	-0.01159	-0.01159	ug/l	4.70	5.00		77.33	75.33	79.33
205 Tl # 3	0.009803	0.009803	ug/l	5.03	20.00		400.02	413.35	396.69
208 Pb # 3	0.02696	0.02696	ug/l	22.42	1800.00		2200.13	1883.44	2257.42
232 Th # 3	0.1958	0.1958	ug/l	9.28	#VALUE!		6985.10	6311.50	5894.65
238 U # 3	0.006523	0.006523	ug/l	9.67	#VALUE!		213.34	246.68	253.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	381254.72	0.94	442436.88	86.2	60 - 125		377597.28	381372.84	384794.03
45 Sc # 1	382107.41	0.19	456299.72	83.7	60 - 125		382713.66	381315.19	382293.38
45 Sc # 3	671768.25	0.63	765061.25	87.8	60 - 125		670682.31	668165.81	676456.69
74 Ge # 1	133938.03	0.55	153441.28	87.3	60 - 125		133142.48	134089.00	134582.61
74 Ge # 2	40815.55	0.11	47804.94	85.4	60 - 125		40764.26	40855.68	40826.70
74 Ge # 3	204442.27	0.70	224564.78	91.0	60 - 125		203948.17	203330.91	206047.69
89 Y # 3	1199362.10	1.24	1302847.50	92.1	60 - 125		1182327.30	1206420.60	1209338.50
115 In # 3	1225647.80	0.76	1366177.60	89.7	60 - 125		1217684.80	1235817.10	1223441.10
159 Tb # 3	1737382.40	1.18	2052817.90	84.6	60 - 125		1720480.40	1731544.80	1760121.90
209 Bi # 3	1055279.90	0.38	1405468.50	75.1	60 - 125		1051927.10	1054124.90	1059787.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\082SMPL.D\082SMPL.D#
 Date Acquired: Aug 26 2014 05:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48951-b-12-b
 Misc Info: 3005 1/5
 Vial Number: 2109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.01509	0.01509	ug/l	10.25	100.00		23.33	30.00	26.67
11 B # 3	3.862	3.862	ug/l	2.64	1800.00		7268.18	7404.94	7278.19
23 Na # 1	1159	1159	ug/l	13.42	81000.00		3267965.80	3229099.00	3223014.00
24 Mg # 1	226.6	226.6	ug/l	13.07	81000.00		438195.88	435420.59	431364.78
27 Al # 1	235.6	235.6	ug/l	13.52	81000.00		543743.19	533090.56	533442.38
39 K # 2	1.47	1.47	ug/l	52.87	81000.00		12190.87	12517.80	12030.81
40 Ca # 1	375.6	375.6	ug/l	13.04	81000.00		2010925.60	1988029.50	1993509.50
47 Ti # 3	1.048	1.048	ug/l	12.64	1620.00		1284.38	1126.77	1060.11
51 V # 2	0.4593	0.4593	ug/l	6.11	1800.00		1380.07	1271.17	1302.28
52 Cr # 2	0.1306	0.1306	ug/l	5.47	1800.00		670.02	707.80	665.57
55 Mn # 3	1.017	1.017	ug/l	0.07	1800.00		19230.38	19834.38	19634.15
56 Fe # 1	700.1	700.1	ug/l	13.43	81000.00		4867563.50	4801919.00	4765181.00
59 Co # 3	0.02716	0.02716	ug/l	22.88	1800.00		513.35	426.69	356.68
60 Ni # 2	0.1338	0.1338	ug/l	4.87	1800.00		184.45	200.00	187.78
63 Cu # 2	0.0235	0.0235	ug/l	23.19	1800.00		477.79	467.79	452.23
66 Zn # 3	0.4556	0.4556	ug/l	3.52	1800.00		1433.43	1540.11	1506.78
75 As # 2	0.131	0.131	ug/l	13.47	100.00		49.00	61.00	55.00
78 Se # 1	-0.02521	-0.02521	ug/l	82.98	100.00		15.00	8.33	11.33
88 Sr # 3	2.355	2.355	ug/l	1.13	1800.00		55422.91	56242.29	56442.46
95 Mo # 3	0.002085	0.002085	ug/l	200.10	1800.00		120.00	100.00	126.67
107 Ag # 3	-0.005652	-0.005652	ug/l	34.43	100.00		70.00	66.67	33.33
111 Cd # 3	0.001258	0.001258	ug/l	179.01	100.00		3.31	13.31	9.97
118 Sn # 3	0.008867	0.008867	ug/l	45.77	1800.00		700.04	723.37	750.04
121 Sb # 3	0.007742	0.007742	ug/l	34.88	100.00		76.67	110.00	120.00
137 Ba # 3	3.095	3.095	ug/l	1.14	1800.00		11524.30	11717.67	11244.00
202 Hg # 3	-0.01734	-0.01734	ug/l	7.53	5.00		59.67	59.00	65.00
205 Tl # 3	0.0005959	0.0005959	ug/l	295.86	20.00		196.67	223.34	140.00
208 Pb # 3	0.05015	0.05015	ug/l	4.47	1800.00		2900.21	2800.19	2850.20
232 Th # 3	0.1038	0.1038	ug/l	3.40	#VALUE!		3620.55	3680.57	3603.87
238 U # 3	0.01019	0.01019	ug/l	7.76	#VALUE!		370.02	360.02	386.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392874.25	2.93	442436.88	88.8	60 - 125		384959.47	406073.22	387590.00
45 Sc # 1	358720.88	11.59	456299.72	78.6	60 - 125		311490.22	374956.44	389716.00
45 Sc # 3	686482.50	4.91	765061.25	89.7	60 - 125		671669.31	725084.56	662693.56
74 Ge # 1	129205.33	10.43	153441.28	84.2	60 - 125		113699.82	135852.17	138063.97
74 Ge # 2	41628.10	0.87	47804.94	87.1	60 - 125		41210.87	41866.79	41806.64
74 Ge # 3	208717.78	1.55	224564.78	92.9	60 - 125		205130.56	211448.78	209574.02
89 Y # 3	1221624.60	1.02	1302847.50	93.8	60 - 125		1214071.10	1235983.00	1214819.60
115 In # 3	1241976.00	1.37	1366177.60	90.9	60 - 125		1233942.80	1261466.60	1230518.80
159 Tb # 3	1733955.00	0.85	2052817.90	84.5	60 - 125		1725445.80	1750921.90	1725497.30
209 Bi # 3	1098609.00	4.32	1405468.50	78.2	60 - 125		1068421.50	1153251.80	1074154.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\083_CCV.D\083_CCV.D#
 Date Acquired: Aug 26 2014 06:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.83 ug/l	1.74	50.00	89.5 - 110		79145.75	79470.68	80715.65
11 B	93.7 ug/l	0.55	100.00	89.5 - 110		119905.59	120210.22	119670.61
23 Na	5146 ug/l	0.97	5000.00	89.5 - 110		15420336.00	15231640.00	15164906.00
24 Mg	5044 ug/l	0.98	5000.00	89.5 - 110		10497373.00	10482982.00	10356060.00
27 Al	530.3 ug/l	1.71	500.00	89.5 - 110		1329621.40	1294109.00	1289952.30
39 K	5072 ug/l	0.96	5000.00	89.5 - 110		1556248.90	1586613.80	1573479.10
40 Ca	5325 ug/l	0.40	5000.00	89.5 - 110		30254122.00	30368526.00	30322972.00
47 Ti	52.27 ug/l	1.28	50.00	89.5 - 110		50983.09	51604.76	52065.85
51 V	49.73 ug/l	0.75	50.00	89.5 - 110		118680.93	119864.63	119257.63
52 Cr	48.8 ug/l	0.76	50.00	89.5 - 110		141440.44	142273.11	141792.98
55 Mn	503.1 ug/l	0.39	500.00	89.5 - 110		8696877.00	8810909.00	8827917.00
56 Fe	5447 ug/l	0.18	5000.00	89.5 - 110		40533108.00	40305516.00	40494356.00
59 Co	50.18 ug/l	0.51	50.00	89.5 - 110		659430.25	662593.75	667050.75
60 Ni	50.28 ug/l	1.32	50.00	89.5 - 110		54278.97	53835.52	54260.20
63 Cu	49.54 ug/l	1.00	50.00	89.5 - 110		145980.72	146674.86	146860.67
66 Zn	48.57 ug/l	0.74	50.00	89.5 - 110		93580.59	93497.38	94451.74
75 As	51.18 ug/l	1.03	50.00	89.5 - 110		15918.25	16264.56	16117.09
78 Se	49.83 ug/l	0.36	50.00	89.5 - 110		11734.12	11657.74	11779.48
88 Sr	49.01 ug/l	0.68	50.00	89.5 - 110		1133602.50	1165288.90	1153907.00
95 Mo	50.87 ug/l	0.58	50.00	89.5 - 110		182885.52	186190.72	186596.91
107 Ag	48.57 ug/l	0.45	50.00	89.5 - 110		492329.72	494989.38	495764.47
111 Cd	48.13 ug/l	0.34	50.00	89.5 - 110		105336.21	106619.87	105553.12
118 Sn	48.63 ug/l	0.70	50.00	89.5 - 110		331560.59	339155.94	339104.31
121 Sb	47.89 ug/l	0.28	50.00	89.5 - 110		395039.16	398917.94	396348.13
137 Ba	48.62 ug/l	0.37	50.00	89.5 - 110		177347.89	178531.25	178544.11
202 Hg	2.482 ug/l	1.00	2.50	89.5 - 110		6849.15	7001.21	7031.90
205 Tl	9.275 ug/l	0.69	10.00	89.5 - 110		216870.08	216334.92	217456.80
208 Pb	46.43 ug/l	0.56	50.00	89.5 - 110		1476846.00	1474931.50	1484673.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	370119.28	0.75	442436.88	83.7	60 - 125		370830.88	372457.41	367069.56
45 Sc	383813.78	0.28	456299.72	84.1	60 - 125		383865.69	382706.38	384869.28
45 Sc	668980.00	0.61	765061.25	87.4	60 - 125		667438.94	673601.56	665899.50
74 Ge	135441.48	0.18	153441.28	88.3	60 - 125		135582.91	135155.66	135585.89
74 Ge	41347.85	0.90	47804.94	86.5	60 - 125		41321.09	41733.11	40989.35
74 Ge	203584.66	0.55	224564.78	90.7	60 - 125		202350.48	204563.06	203840.41
89 Y	1208663.10	0.87	1302847.50	92.8	60 - 125		1196472.30	1214423.50	1215093.40
115 In	1229000.50	0.70	1366177.60	90.0	60 - 125		1219772.10	1236811.00	1230418.50
159 Tb	1726143.60	0.88	2052817.90	84.1	60 - 125		1715447.60	1719413.00	1743570.00
209 Bi	1045375.80	0.59	1405468.50	74.4	60 - 125		1039910.10	1052001.90	1044215.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\084_CCB.D\084_CCB.D#
 Date Acquired: Aug 26 2014 06:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002259	0.002259	ug/l	142.72	#VALUE!		10.00	0.00	3.33
11 B #3	1.599	1.599	ug/l	6.36	#VALUE!		4123.87	4030.51	3860.47
23 Na #1	-12.06	-12.06	ug/l	1.59	#VALUE!		44705.75	44037.53	44973.03
24 Mg #1	0.03541	0.03541	ug/l	113.92	#VALUE!		1050.09	973.38	880.05
27 Al #1	-0.04776	-0.04776	ug/l	159.90	#VALUE!		1153.40	1453.47	1130.07
39 K #2	-12	-12	ug/l	1.86	#VALUE!		7818.45	7801.83	7981.89
40 Ca #1	0.7068	0.7068	ug/l	7.41	#VALUE!		25053.89	25304.06	25373.89
47 Ti #3	-0.05664	-0.05664	ug/l	17.42	#VALUE!		40.00	53.34	30.00
51 V #2	-0.01413	-0.01413	ug/l	8.90	#VALUE!		168.89	172.22	176.67
52 Cr #2	-0.01612	-0.01612	ug/l	31.84	#VALUE!		258.89	231.11	248.89
55 Mn #3	0.02817	0.02817	ug/l	27.26	#VALUE!		1653.45	1896.83	1763.47
56 Fe #1	0.9479	0.9479	ug/l	9.47	#VALUE!		10193.05	11191.89	9999.60
59 Co #3	0.0005307	0.0005307	ug/l	434.33	#VALUE!		73.34	36.67	93.34
60 Ni #2	-0.02156	-0.02156	ug/l	25.12	#VALUE!		27.78	21.11	16.67
63 Cu #2	-0.08646	-0.08646	ug/l	6.73	#VALUE!		142.22	116.67	148.89
66 Zn #3	-0.1041	-0.1041	ug/l	10.96	#VALUE!		360.02	393.35	350.01
75 As #2	0.006555	0.006555	ug/l	162.01	#VALUE!		11.67	15.67	18.33
78 Se #1	-0.03735	-0.03735	ug/l	3.10	#VALUE!		9.00	9.67	9.33
88 Sr #3	0.001214	0.001214	ug/l	78.21	#VALUE!		166.67	156.67	186.67
95 Mo #3	0.0273	0.0273	ug/l	21.00	#VALUE!		226.68	196.67	180.01
107 Ag #3	0.0002462	0.0002462	ug/l	1090.20	#VALUE!		100.00	146.67	93.34
111 Cd #3	0.001902	0.001902	ug/l	135.96	#VALUE!		6.62	16.62	6.63
118 Sn #3	0.01141	0.01141	ug/l	7.00	#VALUE!		720.03	736.71	690.03
121 Sb #3	0.02171	0.02171	ug/l	4.75	#VALUE!		206.67	213.34	213.34
137 Ba #3	0.004622	0.004622	ug/l	27.85	#VALUE!		46.67	53.34	53.34
202 Hg #3	0.01595	0.01595	ug/l	3.27	#VALUE!		150.00	150.33	147.00
205 Tl #3	-0.0003284	-0.0003284	ug/l	200.30	#VALUE!		143.34	173.34	163.34
208 Pb #3	-0.02337	-0.02337	ug/l	3.19	#VALUE!		513.35	486.69	456.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	366314.06	3.25	442436.88	82.8	60 - 125		364516.34	379027.28	355398.50
45 Sc #1	370650.78	0.48	456299.72	81.2	60 - 125		372576.28	370286.25	369089.84
45 Sc #3	643269.31	5.68	765061.25	84.1	60 - 125		640414.63	681128.00	608265.19
74 Ge #1	131963.27	0.74	153441.28	86.0	60 - 125		131054.41	133003.63	131831.75
74 Ge #2	40572.43	0.55	47804.94	84.9	60 - 125		40353.41	40565.00	40798.88
74 Ge #3	196209.16	1.34	224564.78	87.4	60 - 125		198475.34	196816.91	193335.20
89 Y #3	1164982.80	3.48	1302847.50	89.4	60 - 125		1178372.10	1197190.80	1119385.60
115 In #3	1197155.30	2.85	1366177.60	87.6	60 - 125		1211058.30	1222068.00	1158339.80
159 Tb #3	1683555.80	2.07	2052817.90	82.0	60 - 125		1689916.10	1714780.10	1645971.40
209 Bi #3	1058790.30	5.42	1405468.50	75.3	60 - 125		1049794.10	1120187.30	1006389.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\085SMPL.D\085SMPL.D#
 Date Acquired: Aug 26 2014 06:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48951-b-13-b
 Misc Info: 3005 1/5
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.1587	0.1587	ug/l	6.52	100.00		236.68	263.34	270.01
11 B # 3	5.923	5.923	ug/l	1.73	1800.00		9429.15	9475.90	9729.31
23 Na # 1	1444	1444	ug/l	1.09	81000.00		4480494.00	4479668.50	4385477.00
24 Mg # 1	483.3	483.3	ug/l	0.28	81000.00		1029628.90	1022716.60	1023536.60
27 Al # 1	5560	5560	ug/l	0.55	81000.00		14083896.00	13998730.00	13882793.00
39 K # 2	223.1	223.1	ug/l	0.87	81000.00		79621.29	79664.73	79480.34
40 Ca # 1	1257	1257	ug/l	0.53	81000.00		7396431.50	7327841.50	7299955.00
47 Ti # 3	55.85	55.85	ug/l	2.95	1620.00		57275.69	56551.33	54643.92
51 V # 2	5.135	5.135	ug/l	2.14	1800.00		12533.18	12458.69	12156.23
52 Cr # 2	4.047	4.047	ug/l	1.80	1800.00		11867.19	12076.19	11818.24
55 Mn # 3	2.449	2.449	ug/l	2.31	1800.00		44987.43	43391.31	43531.41
56 Fe # 1	2002	2002	ug/l	0.45	81000.00		15312023.00	15215340.00	15125156.00
59 Co # 3	0.6595	0.6595	ug/l	3.21	1800.00		8969.07	8745.64	8548.86
60 Ni # 2	1.716	1.716	ug/l	1.93	1800.00		1913.45	1848.99	1856.78
63 Cu # 2	1.447	1.447	ug/l	3.17	1800.00		4679.52	4681.75	4491.70
66 Zn # 3	3.101	3.101	ug/l	3.05	1800.00		6397.94	6631.36	6528.04
75 As # 2	0.6202	0.6202	ug/l	5.47	100.00		198.67	217.00	203.34
78 Se # 1	0.3007	0.3007	ug/l	7.48	100.00		87.67	82.67	93.33
88 Sr # 3	9.346	9.346	ug/l	1.88	1800.00		246839.55	246487.83	244688.69
95 Mo # 3	0.1992	0.1992	ug/l	9.95	1800.00		733.37	866.71	863.38
107 Ag # 3	0.003239	0.003239	ug/l	85.12	100.00		173.34	140.01	120.00
111 Cd # 3	0.0177	0.0177	ug/l	22.46	100.00		53.17	43.14	36.48
118 Sn # 3	0.1307	0.1307	ug/l	6.72	1800.00		1576.79	1483.44	1553.45
121 Sb # 3	0.02829	0.02829	ug/l	5.59	100.00		276.68	273.34	253.34
137 Ba # 3	16.03	16.03	ug/l	1.04	1800.00		58203.32	57892.67	57795.68
202 Hg # 3	0.02434	0.02434	ug/l	13.26	5.00		168.67	184.67	170.67
205 Tl # 3	0.01393	0.01393	ug/l	2.08	20.00		500.03	486.69	493.36
208 Pb # 3	3.244	3.244	ug/l	0.35	1800.00		103904.70	103641.02	103475.48
232 Th # 3	0.8574	0.8574	ug/l	1.77	#VALUE!		27695.73	26797.40	27395.03
238 U # 3	0.6191	0.6191	ug/l	2.28	#VALUE!		20732.31	20544.21	19683.53

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	372332.66	0.40	442436.88	84.2	60 - 125		370755.78	372556.97	373685.19
45 Sc # 1	392877.44	0.17	456299.72	86.1	60 - 125		393470.59	393005.84	392155.81
45 Sc # 3	682177.06	0.60	765061.25	89.2	60 - 125		680921.38	678843.31	686766.44
74 Ge # 1	133749.78	0.22	153441.28	87.2	60 - 125		133485.11	133707.34	134056.88
74 Ge # 2	40952.84	0.62	47804.94	85.7	60 - 125		40964.77	40691.86	41201.89
74 Ge # 3	203117.59	1.38	224564.78	90.4	60 - 125		203354.56	200210.52	205787.66
89 Y # 3	1354176.80	1.43	1302847.50	103.9	60 - 125		1335576.00	1352767.40	1374186.90
115 In # 3	1212824.30	0.75	1366177.60	88.8	60 - 125		1204103.00	1222349.60	1212020.40
159 Tb # 3	1712647.10	0.16	2052817.90	83.4	60 - 125		1711158.90	1711049.10	1715733.40
209 Bi # 3	1056519.40	0.12	1405468.50	75.2	60 - 125		1055074.30	1057047.00	1057437.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\086SMPL.D\086SMPL.D#
 Date Acquired: Aug 26 2014 06:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48951-m-13-a
 Misc Info: 3005 1/5
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.006254	0.006254	ug/l	105.23	100.00		6.67	3.33	23.33
11 B #3	4.774	4.774	ug/l	2.34	1800.00		8001.86	8188.59	8298.66
23 Na #1	1180	1180	ug/l	0.89	81000.00		3546719.00	3564114.50	3508870.00
24 Mg #1	108	108	ug/l	0.16	81000.00		223211.19	222260.56	223309.84
27 Al #1	97.8	97.8	ug/l	0.48	81000.00		240538.33	240762.28	238891.14
39 K #2	46.52	46.52	ug/l	2.93	81000.00		25561.23	26195.31	26492.42
40 Ca #1	936.8	936.8	ug/l	0.19	81000.00		5311957.50	5307755.50	5321401.00
47 Ti #3	0.08771	0.08771	ug/l	26.09	1620.00		160.01	186.67	206.69
51 V #2	0.3053	0.3053	ug/l	2.21	1800.00		935.59	952.25	940.03
52 Cr #2	0.0571	0.0571	ug/l	11.58	1800.00		485.57	451.12	456.68
55 Mn #3	0.4936	0.4936	ug/l	1.67	1800.00		10196.40	9916.22	10032.94
56 Fe #1	36.76	36.76	ug/l	0.15	81000.00		275051.72	274755.31	274503.97
59 Co #3	0.04237	0.04237	ug/l	7.05	1800.00		666.70	586.69	633.36
60 Ni #2	0.3387	0.3387	ug/l	3.36	1800.00		423.34	396.67	412.23
63 Cu #2	0.0734	0.0734	ug/l	7.28	1800.00		625.57	590.02	618.91
66 Zn #3	0.6847	0.6847	ug/l	5.45	1800.00		1936.83	1826.81	1976.83
75 As #2	0.1161	0.1161	ug/l	20.28	100.00		53.33	54.67	42.00
78 Se #1	-0.0358	-0.0358	ug/l	8.74	100.00		9.33	10.67	9.67
88 Sr #3	2.048	2.048	ug/l	1.06	1800.00		48238.81	47443.41	47978.20
95 Mo #3	-0.004706	-0.004706	ug/l	17.26	1800.00		86.67	86.67	93.34
107 Ag #3	-0.004541	-0.004541	ug/l	17.76	100.00		63.34	60.00	76.67
111 Cd #3	0.003898	0.003898	ug/l	80.73	100.00		16.65	6.65	19.98
118 Sn #3	0.007601	0.007601	ug/l	38.25	1800.00		680.04	720.03	703.37
121 Sb #3	0.01193	0.01193	ug/l	11.75	100.00		130.00	146.67	126.67
137 Ba #3	2.161	2.161	ug/l	0.81	1800.00		7885.39	7805.33	7918.70
202 Hg #3	-0.01498	-0.01498	ug/l	9.01	5.00		64.33	72.00	66.00
205 Tl #3	-0.003541	-0.003541	ug/l	8.89	20.00		96.67	83.34	86.67
208 Pb #3	-0.00121	-0.00121	ug/l	65.07	1800.00		1213.39	1220.06	1173.39
232 Th #3	0.04596	0.04596	ug/l	6.52	#VALUE!		1606.80	1786.83	1666.81
238 U #3	0.00465	0.00465	ug/l	30.04	#VALUE!		226.68	170.01	136.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	375668.00	0.13	442436.88	84.9	60 - 125		375446.88	375335.53	376221.66
45 Sc #1	381122.25	0.18	456299.72	83.5	60 - 125		381810.13	380449.84	381106.72
45 Sc #3	668614.81	0.51	765061.25	87.4	60 - 125		665473.88	668134.81	672235.69
74 Ge #1	134742.56	0.57	153441.28	87.8	60 - 125		135629.44	134349.23	134249.00
74 Ge #2	41443.64	1.01	47804.94	86.7	60 - 125		41355.62	41073.96	41901.33
74 Ge #3	205427.05	0.37	224564.78	91.5	60 - 125		205079.58	204901.89	206299.63
89 Y #3	1199671.50	0.25	1302847.50	92.1	60 - 125		1196206.30	1201603.50	1201204.60
115 In #3	1216643.50	1.03	1366177.60	89.1	60 - 125		1207880.80	1211061.40	1230988.40
159 Tb #3	1724953.60	0.47	2052817.90	84.0	60 - 125		1716884.30	1733197.60	1724778.80
209 Bi #3	1065600.80	0.66	1405468.50	75.8	60 - 125		1061970.30	1061073.10	1073758.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\087SMPL.D\087SMPL.D#
 Date Acquired: Aug 26 2014 06:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48951-b-14-b
 Misc Info: 3005 1/5
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003532	0.003532	ug/l	58.41	100.00		3.33	6.67	10.00
11 B # 3	2.425	2.425	ug/l	1.19	1800.00		5157.49	5204.16	5107.45
23 Na # 1	676.6	676.6	ug/l	1.04	81000.00		2073267.60	2080438.50	2069780.10
24 Mg # 1	190.2	190.2	ug/l	1.03	81000.00		394635.22	393466.28	393125.25
27 Al # 1	24.11	24.11	ug/l	1.72	81000.00		61231.87	59793.42	60516.51
39 K # 2	58.43	58.43	ug/l	1.71	81000.00		29743.99	29370.24	29226.49
40 Ca # 1	435.7	435.7	ug/l	0.25	81000.00		2472867.80	2497630.30	2514955.80
47 Ti # 3	0.7079	0.7079	ug/l	15.50	1620.00		797.09	690.50	873.83
51 V # 2	0.1919	0.1919	ug/l	1.29	1800.00		656.68	665.57	668.91
52 Cr # 2	0.1448	0.1448	ug/l	3.78	1800.00		695.58	725.58	714.47
55 Mn # 3	0.7016	0.7016	ug/l	2.16	1800.00		13341.75	13505.23	13712.01
56 Fe # 1	118.8	118.8	ug/l	0.99	81000.00		884882.88	872614.44	892908.00
59 Co # 3	0.02038	0.02038	ug/l	2.28	1800.00		323.35	336.68	333.35
60 Ni # 2	0.1892	0.1892	ug/l	9.38	1800.00		244.45	228.89	267.78
63 Cu # 2	0.0007603	0.0007603	ug/l	382.35	1800.00		401.12	383.34	393.34
66 Zn # 3	0.2437	0.2437	ug/l	15.28	1800.00		1110.06	1060.06	963.39
75 As # 2	0.08766	0.08766	ug/l	11.42	100.00		38.33	39.33	44.33
78 Se # 1	-0.04485	-0.04485	ug/l	13.24	100.00		9.33	6.67	7.33
88 Sr # 3	2.092	2.092	ug/l	1.75	1800.00		48937.79	48713.50	48459.46
95 Mo # 3	0.01352	0.01352	ug/l	9.98	1800.00		150.01	156.67	156.67
107 Ag # 3	-0.004958	-0.004958	ug/l	39.86	100.00		46.67	56.67	83.34
111 Cd # 3	-0.001719	-0.001719	ug/l	51.07	100.00		3.30	3.30	-0.03
118 Sn # 3	-0.007721	-0.007721	ug/l	100.63	1800.00		593.37	660.03	536.69
121 Sb # 3	0.002853	0.002853	ug/l	13.39	100.00		56.67	63.34	60.00
137 Ba # 3	3.22	3.22	ug/l	1.71	1800.00		11547.53	11851.08	11717.73
202 Hg # 3	-0.02048	-0.02048	ug/l	4.34	5.00		49.33	52.67	53.00
205 Tl # 3	-0.00441	-0.00441	ug/l	12.88	20.00		53.34	73.34	76.67
208 Pb # 3	0.0004594	0.0004594	ug/l	1100.10	1800.00		1210.06	1110.05	1400.89
232 Th # 3	0.02913	0.02913	ug/l	1.97	#VALUE!		1156.75	1166.76	1116.74
238 U # 3	0.006845	0.006845	ug/l	12.34	#VALUE!		223.34	283.35	243.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	375155.25	0.24	442436.88	84.8	60 - 125		375500.13	375823.06	374142.53
45 Sc # 1	382941.44	0.85	456299.72	83.9	60 - 125		380101.66	382237.81	386484.88
45 Sc # 3	663545.44	2.00	765061.25	86.7	60 - 125		668009.69	674032.63	648593.94
74 Ge # 1	134749.67	0.01	153441.28	87.8	60 - 125		134752.72	134767.23	134729.03
74 Ge # 2	41013.76	0.26	47804.94	85.8	60 - 125		40999.24	40915.79	41126.25
74 Ge # 3	202593.66	1.00	224564.78	90.2	60 - 125		201988.92	204844.61	200947.42
89 Y # 3	1195153.40	1.78	1302847.50	91.7	60 - 125		1185947.80	1219526.90	1179985.50
115 In # 3	1216257.10	1.49	1366177.60	89.0	60 - 125		1220021.60	1232221.50	1196528.30
159 Tb # 3	1705472.00	0.98	2052817.90	83.1	60 - 125		1718808.10	1710913.50	1686694.30
209 Bi # 3	1061692.00	1.15	1405468.50	75.5	60 - 125		1056956.50	1075604.40	1052515.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\088SMPL.D\088SMPL.D#
 Date Acquired: Aug 26 2014 06:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-c-1-a
 Misc Info: 3005 1/5
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00529	0.00529	ug/l	64.42	100.00		13.33	13.33	3.33
11 B #3	40.06	40.06	ug/l	1.53	1800.00		55653.34	56335.13	55947.00
23 Na #1	39850	39850	ug/l	0.90	81000.00		121074740.00	120853340.00	122427440.00
24 Mg #1	6383	6383	ug/l	1.13	81000.00		13606993.00	13531943.00	13766836.00
27 Al #1	59.87	59.87	ug/l	6.34	81000.00		161909.00	145084.75	152648.97
39 K #2	4211	4211	ug/l	2.04	81000.00		1309720.30	1286325.30	1308717.90
40 Ca #1	27690	27690	ug/l	0.74	81000.00		162362100.00	162439550.00	162774590.00
47 Ti #3	0.9861	0.9861	ug/l	13.15	1620.00		1060.07	1036.73	1296.93
51 V #2	0.2298	0.2298	ug/l	4.01	1800.00		730.02	743.35	797.80
52 Cr #2	0.3515	0.3515	ug/l	7.38	1800.00		1353.40	1325.62	1254.50
55 Mn #3	298.4	298.4	ug/l	1.46	1800.00		5381296.50	5357091.00	5325595.00
56 Fe #1	3137	3137	ug/l	0.45	81000.00		23859584.00	24040336.00	24200226.00
59 Co #3	0.3904	0.3904	ug/l	2.97	1800.00		5507.65	5217.56	5380.94
60 Ni #2	0.592	0.592	ug/l	7.24	1800.00		702.24	694.46	640.02
63 Cu #2	0.03511	0.03511	ug/l	21.65	1800.00		496.68	508.90	478.90
66 Zn #3	0.837	0.837	ug/l	3.57	1800.00		2233.53	2300.21	2216.87
75 As #2	0.8564	0.8564	ug/l	3.89	100.00		286.00	282.34	275.67
78 Se #1	-0.03362	-0.03362	ug/l	26.69	100.00		12.67	8.67	10.00
88 Sr #3	112.1	112.1	ug/l	0.44	1800.00		2711313.00	2720590.30	2713945.80
95 Mo #3	0.5896	0.5896	ug/l	4.27	1800.00		2333.56	2203.53	2230.21
107 Ag #3	-0.004183	-0.004183	ug/l	14.32	100.00		63.34	73.34	76.67
111 Cd #3	0.002104	0.002104	ug/l	42.28	100.00		9.49	12.85	9.51
118 Sn #3	0.003015	0.003015	ug/l	320.63	1800.00		716.70	600.03	716.70
121 Sb #3	0.01495	0.01495	ug/l	27.95	100.00		133.34	200.01	150.01
137 Ba #3	24.21	24.21	ug/l	2.27	1800.00		88952.16	89853.64	87802.81
202 Hg #3	-0.01988	-0.01988	ug/l	23.20	5.00		61.00	62.34	40.00
205 Tl #3	-0.004761	-0.004761	ug/l	16.26	20.00		40.00	70.00	73.34
208 Pb #3	0.1471	0.1471	ug/l	1.84	1800.00		5970.66	5860.61	6123.99
232 Th #3	0.04477	0.04477	ug/l	1.03	#VALUE!		1543.46	1583.47	1596.81
238 U #3	0.103	0.103	ug/l	3.15	#VALUE!		3280.46	3163.75	3413.82

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	395133.00	0.97	442436.88	89.3	60 - 125		395798.84	390999.44	398600.66
45 Sc #1	395998.84	0.81	456299.72	86.8	60 - 125		392312.38	398151.94	397532.28
45 Sc #3	707635.25	0.76	765061.25	92.5	60 - 125		703768.50	705363.00	713774.25
74 Ge #1	135414.06	0.75	153441.28	88.3	60 - 125		134601.39	136545.92	135094.88
74 Ge #2	41179.27	1.86	47804.94	86.1	60 - 125		40491.18	41041.72	42004.92
74 Ge #3	209346.81	0.97	224564.78	93.2	60 - 125		207952.08	208423.86	211664.47
89 Y #3	1246792.90	0.29	1302847.50	95.7	60 - 125		1250904.60	1244229.00	1245244.90
115 In #3	1231192.00	1.34	1366177.60	90.1	60 - 125		1216180.60	1228506.80	1248888.40
159 Tb #3	1743947.60	0.76	2052817.90	85.0	60 - 125		1742496.10	1731556.00	1757790.80
209 Bi #3	1017376.90	1.18	1405468.50	72.4	60 - 125		1006808.30	1014879.80	1030442.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\089SMPL.D\089SMPL.D#
 Date Acquired: Aug 26 2014 06:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-c-2-a
 Misc Info: 3005 1/5
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002719	0.002719	ug/l	83.52	100.00		3.33	3.33	10.00
11 B #3	34.76	34.76	ug/l	1.20	1800.00		47548.43	48367.02	48316.94
23 Na #1	34550	34550	ug/l	0.65	81000.00		106264370.00	105365720.00	106154050.00
24 Mg #1	5529	5529	ug/l	0.84	81000.00		11953560.00	11842846.00	11850390.00
27 Al #1	41.6	41.6	ug/l	1.20	81000.00		108616.88	107100.17	106939.66
39 K #2	3744	3744	ug/l	5.14	81000.00		1129946.80	1121277.00	1132462.40
40 Ca #1	23650	23650	ug/l	0.38	81000.00		139664540.00	139229860.00	140047890.00
47 Ti #3	0.6873	0.6873	ug/l	9.60	1620.00		856.76	723.37	820.09
51 V #2	0.1879	0.1879	ug/l	2.28	1800.00		608.90	642.24	670.02
52 Cr #2	0.2901	0.2901	ug/l	6.66	1800.00		1066.71	1065.60	1184.49
55 Mn #3	256.9	256.9	ug/l	0.69	1800.00		4572590.50	4585214.00	4556186.00
56 Fe #1	2713	2713	ug/l	0.38	81000.00		20893906.00	20950890.00	20877194.00
59 Co #3	0.3255	0.3255	ug/l	4.19	1800.00		4327.27	4340.64	4677.39
60 Ni #2	0.5708	0.5708	ug/l	3.27	1800.00		622.24	655.57	641.13
63 Cu #2	0.02248	0.02248	ug/l	24.18	1800.00		424.45	470.01	444.45
66 Zn #3	0.6435	0.6435	ug/l	11.37	1800.00		1873.48	1700.13	1983.49
75 As #2	0.7408	0.7408	ug/l	5.88	100.00		240.34	237.34	238.34
78 Se #1	-0.04244	-0.04244	ug/l	7.74	100.00		8.00	8.00	9.33
88 Sr #3	99.26	99.26	ug/l	1.31	1800.00		2323351.30	2343820.80	2335817.50
95 Mo #3	0.4934	0.4934	ug/l	4.19	1800.00		1990.17	1810.15	1856.82
107 Ag #3	-0.005646	-0.005646	ug/l	26.34	100.00		56.67	70.00	40.00
111 Cd #3	0.0006668	0.0006668	ug/l	137.04	100.00		6.23	6.27	9.59
118 Sn #3	0.006883	0.006883	ug/l	77.03	1800.00		663.37	716.70	710.03
121 Sb #3	0.007982	0.007982	ug/l	25.66	100.00		106.67	116.67	83.34
137 Ba #3	21.02	21.02	ug/l	1.04	1800.00		76793.83	76904.43	75296.97
202 Hg #3	-0.02105	-0.02105	ug/l	7.74	5.00		52.67	45.00	53.67
205 Tl #3	-0.004767	-0.004767	ug/l	8.06	20.00		70.00	56.67	53.33
208 Pb #3	0.1333	0.1333	ug/l	2.33	1800.00		5443.87	5520.54	5393.89
232 Th #3	0.02424	0.02424	ug/l	9.77	#VALUE!		1020.07	890.06	920.06
238 U #3	0.08938	0.08938	ug/l	2.35	#VALUE!		2817.01	2770.33	2913.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(t)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	388801.06	0.47	442436.88	87.9	60 - 125		389087.03	386832.81	390483.31
45 Sc #1	398318.84	0.33	456299.72	87.3	60 - 125		396861.91	398663.59	399430.97
45 Sc #3	690853.88	0.39	765061.25	90.3	60 - 125		690620.13	688261.13	693680.25
74 Ge #1	136418.33	0.09	153441.28	88.9	60 - 125		136432.91	136526.97	136295.09
74 Ge #2	40143.77	4.83	47804.94	84.0	60 - 125		37926.51	40979.91	41524.88
74 Ge #3	207547.05	0.56	224564.78	92.4	60 - 125		206199.23	208110.13	208331.78
89 Y #3	1210516.80	0.88	1302847.50	92.9	60 - 125		1220538.80	1199415.40	1211596.00
115 In #3	1217881.40	1.11	1366177.60	89.1	60 - 125		1233219.80	1212456.60	1207967.50
159 Tb #3	1716589.80	0.64	2052817.90	83.6	60 - 125		1715414.50	1706247.90	1728106.90
209 Bi #3	1010193.20	0.44	1405468.50	71.9	60 - 125		1005583.50	1010480.20	1014515.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\090SMPL.D\090SMPL.D#
 Date Acquired: Aug 26 2014 06:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-c-4-a
 Misc Info: 3005 1/5
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002126	0.002126	ug/l	145.53	100.00		0.00	3.33	10.00
11 B # 3	40.34	40.34	ug/l	1.52	1800.00		54329.45	53179.57	54486.66
23 Na # 1	53260	53260	ug/l	0.80	81000.00		160426380.00	159710750.00	159960640.00
24 Mg # 1	9392	9392	ug/l	0.65	81000.00		19812976.00	19781624.00	19760764.00
27 Al # 1	52.26	52.26	ug/l	3.82	81000.00		127761.38	138619.39	129932.72
39 K # 2	1207	1207	ug/l	1.25	81000.00		374482.22	378222.81	372883.28
40 Ca # 1	38050	38050	ug/l	0.31	81000.00		219458050.00	220791820.00	220450260.00
47 Ti # 3	1.284	1.284	ug/l	38.40	1620.00		1488.46	813.52	1754.52
51 V # 2	0.1978	0.1978	ug/l	14.14	1800.00		736.69	626.68	643.35
52 Cr # 2	0.07098	0.07098	ug/l	1.95	1800.00		492.23	491.12	496.68
55 Mn # 3	431.4	431.4	ug/l	0.76	1800.00		7349015.00	7345881.50	7346040.00
56 Fe # 1	160.4	160.4	ug/l	0.27	81000.00		1212872.10	1221118.30	1212951.40
59 Co # 3	0.2289	0.2289	ug/l	3.04	1800.00		2997.01	2933.66	3110.35
60 Ni # 2	0.5585	0.5585	ug/l	0.97	1800.00		626.68	628.90	643.35
63 Cu # 2	-0.03182	-0.03182	ug/l	39.13	1800.00		322.23	301.12	256.67
66 Zn # 3	0.4793	0.4793	ug/l	7.53	1800.00		1460.10	1536.77	1400.10
75 As # 2	0.2541	0.2541	ug/l	13.85	100.00		102.33	82.67	89.00
78 Se # 1	-0.03749	-0.03749	ug/l	14.40	100.00		8.00	10.33	10.00
88 Sr # 3	214	214	ug/l	1.39	1800.00		4934382.00	4887763.50	4896438.50
95 Mo # 3	1.051	1.051	ug/l	2.87	1800.00		3833.86	3807.19	3703.83
107 Ag # 3	-0.004558	-0.004558	ug/l	40.37	100.00		83.34	60.00	50.00
111 Cd # 3	0.002674	0.002674	ug/l	90.43	100.00		12.49	5.83	15.85
118 Sn # 3	-0.005607	-0.005607	ug/l	146.53	1800.00		646.70	563.36	570.03
121 Sb # 3	0.00404	0.00404	ug/l	30.97	100.00		73.34	73.34	56.67
137 Ba # 3	9.216	9.216	ug/l	1.91	1800.00		32458.34	33116.40	31994.18
202 Hg # 3	-0.01943	-0.01943	ug/l	12.80	5.00		59.67	53.67	48.00
205 Tl # 3	-0.005444	-0.005444	ug/l	10.20	20.00		56.67	33.33	40.00
208 Pb # 3	0.03754	0.03754	ug/l	135.46	1800.00		1400.07	1510.08	4263.74
232 Th # 3	0.02123	0.02123	ug/l	6.35	#VALUE!		830.05	860.06	793.38
238 U # 3	0.2452	0.2452	ug/l	4.00	#VALUE!		7728.85	7462.06	7338.67

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	378632.63	0.51	442436.88	85.6	60 - 125		376515.06	379068.13	380314.63
45 Sc # 1	390481.78	0.58	456299.72	85.6	60 - 125		388382.03	392865.03	390198.28
45 Sc # 3	664303.44	1.97	765061.25	86.8	60 - 125		649708.56	668242.19	674959.56
74 Ge # 1	133985.13	0.14	153441.28	87.3	60 - 125		133823.80	133946.98	134184.59
74 Ge # 2	40500.79	0.95	47804.94	84.7	60 - 125		40070.59	40619.54	40812.25
74 Ge # 3	198674.59	0.73	224564.78	88.5	60 - 125		197008.08	199596.66	199419.06
89 Y # 3	1180165.50	0.89	1302847.50	90.6	60 - 125		1168105.90	1184992.80	1187397.80
115 In # 3	1182810.00	1.34	1366177.60	86.6	60 - 125		1164768.80	1194239.80	1189421.50
159 Tb # 3	1684191.50	1.59	2052817.90	82.0	60 - 125		1656425.80	1686221.50	1709927.50
209 Bi # 3	981190.06	1.33	1405468.50	69.8	60 - 125		967605.38	982421.00	993543.75

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\091SMPL.D\091SMPL.D#
 Date Acquired: Aug 26 2014 06:59 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-c-7-a
 Misc Info: 3005 1/5
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002062	0.002062	ug/l	56.16	100.00		3.33	6.67	3.33
11 B # 3	70.57	70.57	ug/l	1.32	1800.00		94899.88	96062.15	95931.28
23 Na # 1	21840	21840	ug/l	14.36	81000.00		66385824.00	64454620.00	66484404.00
24 Mg # 1	19090	19090	ug/l	14.32	81000.00		40488732.00	39568108.00	40763808.00
27 Al # 1	8.769	8.769	ug/l	18.44	81000.00		22545.11	22842.74	24627.63
39 K # 2	3090	3090	ug/l	1.08	81000.00		952013.31	941197.25	947778.31
40 Ca # 1	27080	27080	ug/l	14.58	81000.00		157584560.00	153873090.00	159335870.00
47 Ti # 3	0.3025	0.3025	ug/l	18.04	1620.00		420.02	443.35	340.01
51 V # 2	0.1629	0.1629	ug/l	11.22	1800.00		635.57	568.90	565.57
52 Cr # 2	0.01461	0.01461	ug/l	18.72	1800.00		326.67	344.45	333.34
55 Mn # 3	54.35	54.35	ug/l	0.48	1800.00		956482.88	944516.75	951678.63
56 Fe # 1	2516	2516	ug/l	14.71	81000.00		19046788.00	18674180.00	19373906.00
59 Co # 3	0.3093	0.3093	ug/l	5.27	1800.00		4080.56	4000.56	4383.97
60 Ni # 2	0.3936	0.3936	ug/l	3.94	1800.00		443.34	480.01	461.12
63 Cu # 2	-0.03962	-0.03962	ug/l	16.48	1800.00		292.23	262.23	262.23
66 Zn # 3	2.875	2.875	ug/l	2.86	1800.00		6094.52	6271.25	5964.47
75 As # 2	4.48	4.48	ug/l	1.91	100.00		1418.73	1379.72	1398.39
78 Se # 1	-0.008286	-0.008286	ug/l	113.30	100.00		17.00	15.00	16.67
88 Sr # 3	138.4	138.4	ug/l	0.48	1800.00		3224431.00	3219111.30	3254287.80
95 Mo # 3	5.796	5.796	ug/l	0.12	1800.00		20659.11	20785.93	20612.41
107 Ag # 3	-0.003434	-0.003434	ug/l	42.17	100.00		60.00	86.67	83.34
111 Cd # 3	0.005	0.005	ug/l	78.28	100.00		25.46	15.43	8.80
118 Sn # 3	0.01206	0.01206	ug/l	30.19	1800.00		746.70	720.04	696.70
121 Sb # 3	0.02632	0.02632	ug/l	9.21	100.00		226.67	266.68	253.34
137 Ba # 3	38.07	38.07	ug/l	1.04	1800.00		135297.50	135891.53	137094.95
202 Hg # 3	-0.01852	-0.01852	ug/l	26.49	5.00		71.67	54.33	45.33
205 Tl # 3	-0.004994	-0.004994	ug/l	4.50	20.00		60.00	50.00	53.33
208 Pb # 3	0.04091	0.04091	ug/l	8.22	1800.00		2413.48	2516.82	2620.17
232 Th # 3	0.0162	0.0162	ug/l	6.77	#VALUE!		670.04	733.38	683.38
238 U # 3	0.07315	0.07315	ug/l	2.60	#VALUE!		2300.25	2366.93	2250.23

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389743.69	0.64	442436.88	88.1	60 - 125		392459.41	387558.16	389213.47
45 Sc # 1	395870.19	12.85	456299.72	86.8	60 - 125		394551.47	447384.44	345674.63
45 Sc # 3	677887.00	0.61	765061.25	88.6	60 - 125		673190.38	681010.81	679459.69
74 Ge # 1	134854.50	8.02	153441.28	87.9	60 - 125		134691.59	145744.61	124127.30
74 Ge # 2	40693.81	0.59	47804.94	85.1	60 - 125		40422.49	40788.80	40870.13
74 Ge # 3	203854.92	0.65	224564.78	90.8	60 - 125		205365.95	203259.50	202939.30
89 Y # 3	1202160.90	1.07	1302847.50	92.3	60 - 125		1196255.10	1193274.90	1216952.80
115 In # 3	1199192.60	0.55	1366177.60	87.8	60 - 125		1197137.80	1206627.80	1193812.40
159 Tb # 3	1707973.30	0.35	2052817.90	83.2	60 - 125		1706017.50	1714608.10	1703293.90
209 Bi # 3	1002659.80	0.18	1405468.50	71.3	60 - 125		1000665.80	1003197.20	1004116.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\092SMPL.D\092SMPL.D#
 Date Acquired: Aug 26 2014 07:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-c-9-a
 Misc Info: 3005 1/5
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.452E-005	9.452E-005	ug/l	1232.50	100.00		0.00	0.00	3.33
11 B # 3	21.86	21.86	ug/l	2.13	1800.00		29916.92	30751.35	30974.98
23 Na # 1	18740	18740	ug/l	0.39	81000.00		55455964.00	55478304.00	55156180.00
24 Mg # 1	4235	4235	ug/l	1.24	81000.00		8681758.00	8821596.00	8787545.00
27 Al # 1	6.22	6.22	ug/l	1.73	81000.00		16614.80	16484.33	16941.74
39 K # 2	2176	2176	ug/l	0.52	81000.00		664188.75	665516.69	663789.81
40 Ca # 1	19650	19650	ug/l	0.29	81000.00		112324340.00	111096700.00	111692450.00
47 Ti # 3	0.3515	0.3515	ug/l	3.98	1620.00		456.71	433.35	450.03
51 V # 2	0.9417	0.9417	ug/l	1.37	1800.00		2436.85	2372.40	2403.51
52 Cr # 2	174.6	174.6	ug/l	0.57	1800.00		493926.31	494892.44	494220.72
55 Mn # 3	13.65	13.65	ug/l	0.45	1800.00		236085.36	239268.53	237301.53
56 Fe # 1	1977	1977	ug/l	1.10	81000.00		14567910.00	14677721.00	14775431.00
59 Co # 3	0.3709	0.3709	ug/l	0.62	1800.00		4940.77	4950.81	4874.10
60 Ni # 2	7.24	7.24	ug/l	1.66	1800.00		7723.89	7508.25	7693.88
63 Cu # 2	0.7083	0.7083	ug/l	1.72	1800.00		2472.41	2394.62	2400.18
66 Zn # 3	2.15	2.15	ug/l	1.76	1800.00		4640.73	4630.72	4737.39
75 As # 2	0.3696	0.3696	ug/l	2.03	100.00		125.67	125.33	128.33
78 Se # 1	0.03779	0.03779	ug/l	21.51	100.00		29.00	26.33	25.33
88 Sr # 3	57.74	57.74	ug/l	0.16	1800.00		1345410.00	1342254.10	1344786.60
95 Mo # 3	1.832	1.832	ug/l	0.33	1800.00		6728.14	6608.06	6604.74
107 Ag # 3	-0.004255	-0.004255	ug/l	40.24	100.00		73.34	83.34	50.00
111 Cd # 3	0.0002063	0.0002063	ug/l	416.77	100.00		8.52	5.21	5.21
118 Sn # 3	0.02677	0.02677	ug/l	45.31	1800.00		736.71	876.72	860.05
121 Sb # 3	0.04559	0.04559	ug/l	18.40	100.00		376.68	360.01	483.36
137 Ba # 3	3.167	3.167	ug/l	1.95	1800.00		11767.72	11197.34	11290.75
202 Hg # 3	-0.02234	-0.02234	ug/l	15.69	5.00		41.67	40.67	58.67
205 Tl # 3	-0.003624	-0.003624	ug/l	19.45	20.00		103.34	70.00	86.67
208 Pb # 3	-0.01066	-0.01066	ug/l	6.40	1800.00		890.04	913.38	890.04
232 Th # 3	0.009676	0.009676	ug/l	4.18	#VALUE!		500.03	526.69	510.02
238 U # 3	0.06027	0.06027	ug/l	3.72	#VALUE!		1993.53	1980.19	1876.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	382706.75	0.21	442436.88	86.5	60 - 125		383230.66	383098.47	381791.03
45 Sc # 1	383541.00	0.42	456299.72	84.1	60 - 125		385392.91	382680.09	382550.00
45 Sc # 3	672967.44	0.64	765061.25	88.0	60 - 125		668132.31	674476.44	676293.56
74 Ge # 1	133749.73	0.21	153441.28	87.2	60 - 125		133883.16	133431.05	133935.02
74 Ge # 2	40341.50	0.55	47804.94	84.4	60 - 125		40534.87	40389.03	40100.61
74 Ge # 3	201849.22	0.35	224564.78	89.9	60 - 125		201632.83	202636.02	201278.81
89 Y # 3	1198029.00	0.28	1302847.50	92.0	60 - 125		1200339.80	1194178.40	1199569.00
115 In # 3	1205831.40	0.74	1366177.60	88.3	60 - 125		1216096.00	1200258.10	1201140.00
159 Tb # 3	1717789.50	1.01	2052817.90	83.7	60 - 125		1716213.30	1701292.50	1735862.50
209 Bi # 3	1027268.40	0.47	1405468.50	73.1	60 - 125		1022043.80	1028104.30	1031657.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\093SMPL.D\093SMPL.D#
 Date Acquired: Aug 26 2014 07:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-a-10-a
 Misc Info: 3005 1/5
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	1.355	1.355	ug/l	5.35	1800.00		3887.16	3823.81	4010.52
23 Na # 1	16.06	16.06	ug/l	0.59	81000.00		129364.40	127958.27	129219.61
24 Mg # 1	6.547	6.547	ug/l	3.58	81000.00		14819.39	14585.87	13935.35
27 Al # 1	1.086	1.086	ug/l	15.86	81000.00		3810.49	4529.68	3850.50
39 K # 2	-6.565	-6.565	ug/l	11.89	81000.00		9626.06	9395.90	9669.39
40 Ca # 1	32.28	32.28	ug/l	0.94	81000.00		205263.69	206104.31	204320.48
47 Ti # 3	-0.01548	-0.01548	ug/l	86.43	1620.00		96.67	76.67	73.34
51 V # 2	0.09538	0.09538	ug/l	17.70	1800.00		420.01	401.12	475.57
52 Cr # 2	0.191	0.191	ug/l	0.44	1800.00		828.92	852.25	841.14
55 Mn # 3	0.09959	0.09959	ug/l	5.84	1800.00		3016.99	3210.36	3010.33
56 Fe # 1	4.466	4.466	ug/l	1.53	81000.00		36646.78	36379.50	37558.45
59 Co # 3	-0.001435	-0.001435	ug/l	53.18	1800.00		33.33	46.67	53.33
60 Ni # 2	0.02542	0.02542	ug/l	24.19	1800.00		70.00	66.67	78.89
63 Cu # 2	-0.06423	-0.06423	ug/l	5.97	1800.00		186.67	212.23	205.56
66 Zn # 3	0.1897	0.1897	ug/l	31.87	1800.00		850.04	1080.06	903.38
75 As # 2	0.06111	0.06111	ug/l	13.31	100.00		33.00	34.33	29.33
78 Se # 1	-0.05091	-0.05091	ug/l	17.67	100.00		5.67	8.67	4.67
88 Sr # 3	0.08344	0.08344	ug/l	4.12	1800.00		2126.86	2156.86	1990.18
95 Mo # 3	-0.01445	-0.01445	ug/l	14.10	1800.00		50.00	50.00	63.34
107 Ag # 3	-0.004283	-0.004283	ug/l	54.54	100.00		93.34	46.67	70.00
111 Cd # 3	0.000308	0.000308	ug/l	498.38	100.00		9.99	3.32	6.65
118 Sn # 3	-0.01695	-0.01695	ug/l	45.63	1800.00		533.36	596.69	490.02
121 Sb # 3	0.00222	0.00222	ug/l	51.17	100.00		50.00	66.67	50.00
137 Ba # 3	0.08344	0.08344	ug/l	12.14	1800.00		323.35	316.68	386.68
202 Hg # 3	-0.02206	-0.02206	ug/l	20.08	5.00		44.33	38.00	61.34
205 Tl # 3	-0.005588	-0.005588	ug/l	6.63	20.00		50.00	40.00	33.33
208 Pb # 3	-0.002561	-0.002561	ug/l	353.14	1800.00		1013.38	976.71	1488.59
232 Th # 3	0.004081	0.004081	ug/l	22.88	#VALUE!		383.35	346.68	330.02
238 U # 3	-0.0002795	-0.0002795	ug/l	82.00	#VALUE!		10.00	10.00	23.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	386507.00	0.72	442436.88	87.4	60 - 125		383294.69	388283.16	387943.13
45 Sc # 1	382810.34	0.42	456299.72	83.9	60 - 125		383503.50	380970.75	383956.69
45 Sc # 3	663891.44	0.51	765061.25	86.8	60 - 125		660002.94	665891.69	665779.81
74 Ge # 1	134238.28	0.70	153441.28	87.5	60 - 125		133378.39	134101.14	135235.33
74 Ge # 2	40807.04	1.10	47804.94	85.4	60 - 125		40352.37	41252.04	40816.73
74 Ge # 3	203228.11	0.49	224564.78	90.5	60 - 125		202211.09	204197.31	203275.92
89 Y # 3	1199144.90	1.03	1302847.50	92.0	60 - 125		1190173.50	1213296.10	1193965.10
115 In # 3	1232270.00	0.77	1366177.60	90.2	60 - 125		1221393.30	1236675.10	1238741.60
159 Tb # 3	1725926.30	1.02	2052817.90	84.1	60 - 125		1709642.50	1744614.60	1723521.80
209 Bi # 3	1066576.50	0.68	1405468.50	75.9	60 - 125		1058371.80	1069130.80	1072227.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\094_CCV.D\094_CCV.D#
 Date Acquired: Aug 26 2014 07:21 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	49.72 ug/l	1.07	50.00	89.5 - 110		81706.00	80083.07	80534.69
11 B	93.8 ug/l	0.78	100.00	89.5 - 110		122192.81	122420.74	120854.85
23 Na	5198 ug/l	0.80	5000.00	89.5 - 110		15412973.00	15647445.00	15308370.00
24 Mg	5110 ug/l	0.50	5000.00	89.5 - 110		10577482.00	10679073.00	10544820.00
27 Al	534.7 ug/l	0.53	500.00	89.5 - 110		1312781.60	1319967.00	1321180.30
39 K	5057 ug/l	0.65	5000.00	89.5 - 110		1567691.30	1568576.30	1573853.40
40 Ca	5319 ug/l	0.31	5000.00	89.5 - 110		30095026.00	30485076.00	30425286.00
47 Ti	52.2 ug/l	0.99	50.00	89.5 - 110		51715.15	51527.95	51187.06
51 V	49.6 ug/l	0.35	50.00	89.5 - 110		118558.88	119353.05	119513.70
52 Cr	48.66 ug/l	0.61	50.00	89.5 - 110		141281.61	141259.38	142444.70
55 Mn	503 ug/l	0.80	500.00	89.5 - 110		8739661.00	8771357.00	8687575.00
56 Fe	5476 ug/l	0.65	5000.00	89.5 - 110		40468728.00	41300400.00	40442144.00
59 Co	49.98 ug/l	0.47	50.00	89.5 - 110		656141.38	658738.94	656112.06
60 Ni	50.31 ug/l	0.53	50.00	89.5 - 110		53940.37	54584.37	54224.40
63 Cu	49.21 ug/l	0.14	50.00	89.5 - 110		144353.63	146164.38	146857.36
66 Zn	48.22 ug/l	0.94	50.00	89.5 - 110		93209.11	92575.28	92260.51
75 As	50.6 ug/l	0.79	50.00	89.5 - 110		15924.93	16001.33	15904.24
78 Se	50.43 ug/l	0.38	50.00	89.5 - 110		11759.14	11945.92	11866.54
88 Sr	48.9 ug/l	1.81	50.00	89.5 - 110		1143690.90	1120168.60	1143402.50
95 Mo	50.43 ug/l	1.94	50.00	89.5 - 110		183622.59	181077.69	182599.31
107 Ag	48.44 ug/l	1.07	50.00	89.5 - 110		488899.06	491018.84	489542.59
111 Cd	48.29 ug/l	1.41	50.00	89.5 - 110		105737.91	105691.60	105031.25
118 Sn	48.59 ug/l	0.81	50.00	89.5 - 110		332564.84	335685.22	334167.34
121 Sb	47.79 ug/l	1.09	50.00	89.5 - 110		392737.75	394369.38	392902.59
137 Ba	49.01 ug/l	1.85	50.00	89.5 - 110		178910.45	176765.50	179449.86
202 Hg	2.506 ug/l	0.57	2.50	89.5 - 110		6956.54	7038.57	7028.23
205 Tl	9.315 ug/l	1.05	10.00	89.5 - 110		216917.81	216031.03	218700.80
208 Pb	46.7 ug/l	0.94	50.00	89.5 - 110		1484850.00	1475498.50	1489307.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	375567.09	0.08	442436.88	84.9	60 - 125		375362.38	375448.91	375890.00
45 Sc	384535.47	0.75	456299.72	84.3	60 - 125		381734.63	387479.22	384392.59
45 Sc	669020.25	0.48	765061.25	87.4	60 - 125		665660.19	669360.75	672039.81
74 Ge	135349.80	0.65	153441.28	88.2	60 - 125		134335.20	135805.00	135909.17
74 Ge	41417.96	0.78	47804.94	86.6	60 - 125		41051.57	41548.23	41654.09
74 Ge	202556.47	0.42	224564.78	90.2	60 - 125		201696.88	202585.52	203387.02
89 Y	1195542.80	1.30	1302847.50	91.8	60 - 125		1179726.90	1196052.60	1210848.50
115 In	1221147.50	1.26	1366177.60	89.4	60 - 125		1204278.10	1234338.80	1224825.60
159 Tb	1721376.40	0.47	2052817.90	83.9	60 - 125		1717419.50	1730771.40	1715938.30
209 Bi	1040737.20	0.33	1405468.50	74.0	60 - 125		1038649.30	1038860.80	1044701.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\095_CCB.D\095_CCB.D#
 Date Acquired: Aug 26 2014 07:28 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003544	0.003544	ug/l	58.41	#VALUE!		3.33	10.00	6.67
11 B # 3	1.813	1.813	ug/l	12.81	#VALUE!		4607.34	4427.28	4053.86
23 Na # 1	-10.45	-10.45	ug/l	0.60	#VALUE!		50185.91	50105.43	49898.34
24 Mg # 1	0.219	0.219	ug/l	12.94	#VALUE!		1393.41	1390.10	1293.42
27 Al # 1	0.1447	0.1447	ug/l	23.46	#VALUE!		1830.13	1683.46	1686.79
39 K # 2	-11.32	-11.32	ug/l	3.81	#VALUE!		8171.95	8338.71	8028.59
40 Ca # 1	0.9464	0.9464	ug/l	7.25	#VALUE!		27497.12	26892.98	26739.44
47 Ti # 3	-0.0604	-0.0604	ug/l	21.76	#VALUE!		23.33	43.33	46.67
51 V # 2	-0.008099	-0.008099	ug/l	93.10	#VALUE!		186.67	208.89	172.22
52 Cr # 2	-0.01534	-0.01534	ug/l	41.13	#VALUE!		273.34	237.78	244.45
55 Mn # 3	0.02631	0.02631	ug/l	29.17	#VALUE!		1633.45	1873.49	1810.14
56 Fe # 1	1.135	1.135	ug/l	6.25	#VALUE!		12592.31	11907.50	11563.91
59 Co # 3	0.001789	0.001789	ug/l	40.62	#VALUE!		83.34	76.67	96.67
60 Ni # 2	-0.01562	-0.01562	ug/l	36.35	#VALUE!		25.56	35.56	24.44
63 Cu # 2	-0.08897	-0.08897	ug/l	1.98	#VALUE!		136.67	128.89	125.56
66 Zn # 3	-0.1111	-0.1111	ug/l	18.32	#VALUE!		360.02	396.68	326.68
75 As # 2	0.003117	0.003117	ug/l	161.12	#VALUE!		14.67	12.67	15.67
78 Se # 1	-0.04308	-0.04308	ug/l	12.66	#VALUE!		8.67	6.67	9.00
88 Sr # 3	0.002049	0.002049	ug/l	43.52	#VALUE!		180.01	216.67	183.34
95 Mo # 3	0.03042	0.03042	ug/l	20.82	#VALUE!		200.01	243.34	203.34
107 Ag # 3	-0.002991	-0.002991	ug/l	36.24	#VALUE!		86.67	90.00	70.00
111 Cd # 3	0.002876	0.002876	ug/l	133.28	#VALUE!		13.29	19.95	3.29
118 Sn # 3	0.007743	0.007743	ug/l	26.55	#VALUE!		706.70	710.03	690.03
121 Sb # 3	0.02061	0.02061	ug/l	18.03	#VALUE!		230.01	213.34	173.34
137 Ba # 3	0.00438	0.00438	ug/l	85.09	#VALUE!		53.34	36.67	63.34
202 Hg # 3	0.01187	0.01187	ug/l	31.96	#VALUE!		148.00	141.67	128.67
205 Tl # 3	-0.002134	-0.002134	ug/l	44.35	#VALUE!		116.67	100.00	143.34
208 Pb # 3	-0.02274	-0.02274	ug/l	4.19	#VALUE!		523.35	530.02	476.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	374013.09	0.39	442436.88	84.5	60 - 125		373688.41	372756.97	375593.91
45 Sc # 1	377382.28	0.17	456299.72	82.7	60 - 125		377801.75	376660.97	377684.09
45 Sc # 3	653292.94	0.43	765061.25	85.4	60 - 125		652870.75	656259.75	650748.56
74 Ge # 1	133451.52	0.15	153441.28	87.0	60 - 125		133230.64	133490.38	133633.58
74 Ge # 2	41106.58	0.48	47804.94	86.0	60 - 125		41266.57	41166.32	40886.84
74 Ge # 3	199842.52	0.91	224564.78	89.0	60 - 125		200061.58	197915.31	201550.67
89 Y # 3	1189355.10	0.21	1302847.50	91.3	60 - 125		1189089.40	1187029.40	1191946.60
115 In # 3	1216948.90	0.94	1366177.60	89.1	60 - 125		1203779.60	1224551.50	1222515.30
159 Tb # 3	1699843.90	0.44	2052817.90	82.8	60 - 125		1691133.10	1704723.30	1703675.00
209 Bi # 3	1056022.30	0.22	1405468.50	75.1	60 - 125		1053783.60	1058511.00	1055772.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\096SMPL.D\096SMPL.D#
 Date Acquired: Aug 26 2014 07:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-a-11-a
 Misc Info: 3005 1/5
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.02603	0.02603	ug/l	24.52	100.00		33.33	53.33	53.33
11 B # 3	32.18	32.18	ug/l	2.74	1800.00		46746.50	47204.36	45553.77
23 Na # 1	177500	177500	ug/l	0.69	81000.00		555562050.00	550991170.00	558403650.00
24 Mg # 1	11400	11400	ug/l	2.32	81000.00		25438652.00	25147880.00	24391626.00
27 Al # 1	515.8	515.8	ug/l	2.27	81000.00		1369588.40	1313042.80	1350221.00
39 K # 2	5016	5016	ug/l	13.65	81000.00		1593588.30	1559371.80	1602020.80
40 Ca # 1	51360	51360	ug/l	0.75	81000.00		310984160.00	307252580.00	310211040.00
47 Ti # 3	9.078	9.078	ug/l	19.30	1620.00		9203.12	12413.21	8786.74
51 V # 2	1.041	1.041	ug/l	14.99	1800.00		2813.57	2681.33	2769.12
52 Cr # 2	0.6514	0.6514	ug/l	16.89	1800.00		2282.38	2147.92	2253.49
55 Mn # 3	430.8	430.8	ug/l	1.03	1800.00		7873986.50	7820918.00	7741008.00
56 Fe # 1	9440	9440	ug/l	0.61	81000.00		74596656.00	73948256.00	74189112.00
59 Co # 3	0.3419	0.3419	ug/l	2.99	1800.00		4594.02	4797.42	4887.44
60 Ni # 2	0.916	0.916	ug/l	15.57	1800.00		1112.27	996.70	1041.15
63 Cu # 2	0.5915	0.5915	ug/l	19.16	1800.00		2192.37	2092.36	2243.50
66 Zn # 3	1.953	1.953	ug/l	1.46	1800.00		4530.70	4450.68	4520.67
75 As # 2	2.275	2.275	ug/l	12.49	100.00		744.02	743.02	743.35
78 Se # 1	-0.01236	-0.01236	ug/l	114.00	100.00		19.00	14.33	12.67
88 Sr # 3	165.7	165.7	ug/l	1.93	1800.00		4058394.00	4067323.30	4001928.30
95 Mo # 3	1.157	1.157	ug/l	5.89	1800.00		4280.68	4487.36	4063.91
107 Ag # 3	-0.0006719	-0.0006719	ug/l	327.13	100.00		130.01	93.34	93.34
111 Cd # 3	0.004999	0.004999	ug/l	63.07	100.00		9.06	22.35	19.11
118 Sn # 3	0.06976	0.06976	ug/l	15.65	1800.00		1176.74	1146.74	1056.73
121 Sb # 3	0.02802	0.02802	ug/l	30.85	100.00		203.34	343.38	253.34
137 Ba # 3	11.95	11.95	ug/l	1.66	1800.00		43068.43	43960.15	43175.68
202 Hg # 3	-0.01512	-0.01512	ug/l	25.34	5.00		73.67	73.67	55.67
205 Tl # 3	0.002127	0.002127	ug/l	57.92	20.00		226.68	250.01	193.34
208 Pb # 3	0.5684	0.5684	ug/l	2.13	1800.00		19718.73	19612.05	19168.55
232 Th # 3	0.198	0.198	ug/l	1.61	#VALUE!		6138.05	5908.02	6021.42
238 U # 3	0.1218	0.1218	ug/l	1.42	#VALUE!		3757.25	3773.93	3713.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	404802.88	1.03	442436.88	91.5	60 - 125		400434.22	405198.13	408776.28
45 Sc # 1	406551.47	0.19	456299.72	89.1	60 - 125		405685.81	406861.50	407107.13
45 Sc # 3	750349.19	2.79	765061.25	98.1	60 - 125		726922.81	756991.50	767133.19
74 Ge # 1	134424.14	0.34	153441.28	87.6	60 - 125		134326.42	134927.36	134018.63
74 Ge # 2	42628.74	12.37	47804.94	89.2	60 - 125		42125.14	48135.27	37625.82
74 Ge # 3	211563.42	0.32	224564.78	94.2	60 - 125		210877.66	212239.31	211573.30
89 Y # 3	1255963.60	1.11	1302847.50	96.4	60 - 125		1244288.50	1252251.60	1271350.90
115 In # 3	1217723.90	1.12	1366177.60	89.1	60 - 125		1206092.60	1214335.50	1232743.50
159 Tb # 3	1741404.00	0.53	2052817.90	84.8	60 - 125		1731970.00	1741917.10	1750325.00
209 Bi # 3	982845.50	0.62	1405468.50	69.9	60 - 125		984515.06	976055.31	987966.13

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\097SMPL.D\097SMPL.D#
 Date Acquired: Aug 26 2014 07:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104510-a-12-a
 Misc Info: 3005 1/5
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002639	0.002639	ug/l	45.09	100.00		3.33	6.67	6.67
11 B # 3	24.19	24.19	ug/l	2.83	1800.00		35549.54	34834.90	35506.09
23 Na # 1	126700	126700	ug/l	0.27	81000.00		392206690.00	391712420.00	386712670.00
24 Mg # 1	8662	8662	ug/l	0.32	81000.00		18839228.00	18669516.00	18630746.00
27 Al # 1	29.58	29.58	ug/l	5.50	81000.00		73123.81	78326.80	80484.78
39 K # 2	3756	3756	ug/l	1.44	81000.00		1171478.40	1186580.40	1166013.80
40 Ca # 1	37220	37220	ug/l	0.35	81000.00		221309980.00	222030960.00	219316130.00
47 Ti # 3	1.209	1.209	ug/l	32.95	1620.00		1811.18	1163.41	1063.39
51 V # 2	0.1662	0.1662	ug/l	9.34	1800.00		567.79	626.68	640.02
52 Cr # 2	0.0788	0.0788	ug/l	12.92	1800.00		554.46	534.46	500.01
55 Mn # 3	131.4	131.4	ug/l	1.39	1800.00		2313058.00	2317378.30	2312014.30
56 Fe # 1	858.8	858.8	ug/l	0.28	81000.00		6708558.00	6648881.50	6611363.00
59 Co # 3	0.05128	0.05128	ug/l	10.04	1800.00		806.71	743.37	690.03
60 Ni # 2	0.3235	0.3235	ug/l	5.21	1800.00		395.56	412.23	380.01
63 Cu # 2	-0.03561	-0.03561	ug/l	4.27	1800.00		285.56	288.89	296.67
66 Zn # 3	0.5974	0.5974	ug/l	9.79	1800.00		1586.79	1823.48	1823.47
75 As # 2	0.5508	0.5508	ug/l	4.93	100.00		190.00	177.33	196.00
78 Se # 1	-0.03009	-0.03009	ug/l	0.68	100.00		11.33	11.33	11.33
88 Sr # 3	126.4	126.4	ug/l	3.47	1800.00		3010675.80	2998174.00	2991982.00
95 Mo # 3	1.469	1.469	ug/l	4.14	1800.00		5387.67	5314.25	5280.94
107 Ag # 3	0.005368	0.005368	ug/l	26.19	100.00		153.34	156.67	183.34
111 Cd # 3	-0.00064	-0.00064	ug/l	293.75	100.00		8.81	2.16	2.17
118 Sn # 3	0.01411	0.01411	ug/l	43.16	1800.00		756.70	723.37	726.71
121 Sb # 3	0.009927	0.009927	ug/l	19.43	100.00		106.67	136.67	106.67
137 Ba # 3	6.486	6.486	ug/l	3.58	1800.00		23383.43	23152.97	23199.66
202 Hg # 3	-0.01667	-0.01667	ug/l	21.72	5.00		71.34	54.67	62.67
205 Tl # 3	-0.005256	-0.005256	ug/l	9.12	20.00		60.00	43.33	43.33
208 Pb # 3	0.03772	0.03772	ug/l	12.47	1800.00		2380.15	2630.18	2343.48
232 Th # 3	0.02791	0.02791	ug/l	4.74	#VALUE!		1023.40	1090.07	1060.07
238 U # 3	0.01383	0.01383	ug/l	7.56	#VALUE!		430.02	490.03	456.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402496.63	3.39	442436.88	91.0	60 - 125		417894.56	391824.56	397770.78
45 Sc # 1	400429.53	0.55	456299.72	87.8	60 - 125		402332.03	400959.78	397996.78
45 Sc # 3	699211.63	0.79	765061.25	91.4	60 - 125		697679.06	694598.25	705357.56
74 Ge # 1	136042.38	0.43	153441.28	88.7	60 - 125		136333.11	136418.52	135375.50
74 Ge # 2	41612.86	0.55	47804.94	87.0	60 - 125		41565.03	41412.43	41861.12
74 Ge # 3	205350.42	1.40	224564.78	91.4	60 - 125		202038.98	206711.48	207300.80
89 Y # 3	1222716.30	3.11	1302847.50	93.8	60 - 125		1179559.80	1237466.60	1251122.10
115 In # 3	1201484.00	3.00	1366177.60	87.9	60 - 125		1159860.90	1222612.30	1221978.80
159 Tb # 3	1733101.10	2.94	2052817.90	84.4	60 - 125		1674723.90	1755811.60	1768767.90
209 Bi # 3	1013856.40	0.64	1405468.50	72.1	60 - 125		1020345.50	1007441.90	1013781.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\098SMPL.D\098SMPL.D#
 Date Acquired: Aug 26 2014 07:50 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-1-a
 Misc Info: 3005 1/5
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.009181	0.009181	ug/l	21.50	100.00		20.00	16.67	13.33
11 B # 3	68.67	68.67	ug/l	1.02	1800.00		94093.02	94086.27	94849.12
23 Na # 1	45040	45040	ug/l	1.23	81000.00		138056640.00	137000240.00	136083200.00
24 Mg # 1	4057	4057	ug/l	0.77	81000.00		8680910.00	8629171.00	8648525.00
27 Al # 1	177.3	177.3	ug/l	5.13	81000.00		473347.03	444106.72	433426.41
39 K # 2	6552	6552	ug/l	0.91	81000.00		2027453.80	2042432.90	2066030.80
40 Ca # 1	12360	12360	ug/l	0.81	81000.00		72283376.00	72932496.00	72053992.00
47 Ti # 3	3.101	3.101	ug/l	7.61	1620.00		3244.74	3114.14	3474.51
51 V # 2	0.703	0.703	ug/l	2.54	1800.00		1842.33	1945.68	1941.23
52 Cr # 2	1.571	1.571	ug/l	3.29	1800.00		4998.50	4942.92	4750.67
55 Mn # 3	150.1	150.1	ug/l	1.45	1800.00		2659410.00	2679557.30	2673505.50
56 Fe # 1	293.9	293.9	ug/l	0.19	81000.00		2237199.30	2260251.80	2258374.00
59 Co # 3	0.12	0.12	ug/l	6.56	1800.00		1586.78	1820.14	1636.79
60 Ni # 2	1.179	1.179	ug/l	1.06	1800.00		1318.95	1344.51	1311.17
63 Cu # 2	0.3568	0.3568	ug/l	0.68	1800.00		1443.40	1464.52	1468.96
66 Zn # 3	2.489	2.489	ug/l	1.32	1800.00		5410.96	5447.63	5527.65
75 As # 2	1.011	1.011	ug/l	2.58	100.00		340.34	332.34	329.34
78 Se # 1	-0.02823	-0.02823	ug/l	31.70	100.00		9.67	14.00	11.67
88 Sr # 3	72.95	72.95	ug/l	2.10	1800.00		1724590.00	1757149.10	1708480.60
95 Mo # 3	6.782	6.782	ug/l	3.57	1800.00		25458.80	24444.01	24938.06
107 Ag # 3	0.006593	0.006593	ug/l	59.23	100.00		146.67	170.01	230.01
111 Cd # 3	0.03548	0.03548	ug/l	5.65	100.00		87.74	81.29	84.52
118 Sn # 3	0.2175	0.2175	ug/l	5.24	1800.00		2220.22	2136.87	2160.20
121 Sb # 3	0.04538	0.04538	ug/l	8.19	100.00		433.35	383.35	430.02
137 Ba # 3	26.15	26.15	ug/l	2.62	1800.00		96865.04	97274.11	95202.34
202 Hg # 3	-0.01788	-0.01788	ug/l	24.58	5.00		73.67	50.33	60.33
205 Tl # 3	-0.002946	-0.002946	ug/l	35.88	20.00		80.00	133.34	106.67
208 Pb # 3	0.2168	0.2168	ug/l	23.17	1800.00		9628.55	8957.91	6654.26
232 Th # 3	0.125	0.125	ug/l	32.26	#VALUE!		2653.96	4954.94	4922.90
238 U # 3	0.2845	0.2845	ug/l	1.73	#VALUE!		9406.52	9369.94	9343.16

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	394867.38	0.74	442436.88	89.2	60 - 125		392675.72	398176.16	393750.25
45 Sc # 1	395365.19	0.51	456299.72	86.6	60 - 125		393120.31	395942.47	397032.84
45 Sc # 3	696794.81	3.51	765061.25	91.1	60 - 125		672155.38	721017.56	697211.56
74 Ge # 1	136026.44	0.58	153441.28	88.7	60 - 125		135120.42	136541.64	136417.25
74 Ge # 2	41717.63	0.88	47804.94	87.3	60 - 125		41323.37	42052.85	41776.66
74 Ge # 3	207498.53	1.79	224564.78	92.4	60 - 125		203217.94	209468.64	209808.98
89 Y # 3	1220831.10	2.21	1302847.50	93.7	60 - 125		1190481.80	1242271.40	1229740.40
115 In # 3	1237362.60	1.78	1366177.60	90.6	60 - 125		1212967.90	1243149.00	1255970.90
159 Tb # 3	1786342.60	1.46	2052817.90	87.0	60 - 125		1756428.80	1798005.00	1804594.50
209 Bi # 3	1055659.40	1.39	1405468.50	75.1	60 - 125		1038875.20	1062375.30	1065727.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\099SMPL.D\099SMPL.D#
 Date Acquired: Aug 26 2014 07:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-2-a
 Misc Info: 3005 1/5
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.08834	0.08834	ug/l	12.03	100.00		166.67	146.67	133.34
11 B # 3	50.11	50.11	ug/l	1.10	1800.00		68262.84	68012.18	68028.95
23 Na # 1	15030	15030	ug/l	8.61	81000.00		46432304.00	45682364.00	45951112.00
24 Mg # 1	86.37	86.37	ug/l	9.68	81000.00		185070.91	186193.52	186716.53
27 Al # 1	1579	1579	ug/l	9.19	81000.00		4024956.50	4002023.30	4029173.30
39 K # 2	99340	99340	ug/l	1.01	81000.00		30740082.00	30925740.00	30692052.00
40 Ca # 1	1412	1412	ug/l	8.91	81000.00		8395163.00	8247090.00	8365496.50
47 Ti # 3	19.7	19.7	ug/l	2.03	1620.00		19984.80	20643.26	19985.11
51 V # 2	6.199	6.199	ug/l	1.51	1800.00		15011.66	15292.98	15157.35
52 Cr # 2	1.104	1.104	ug/l	1.50	1800.00		3565.93	3528.15	3482.58
55 Mn # 3	12.74	12.74	ug/l	0.50	1800.00		225721.64	223879.55	226021.97
56 Fe # 1	1614	1614	ug/l	9.24	81000.00		12387584.00	12467426.00	12374605.00
59 Co # 3	0.4225	0.4225	ug/l	2.44	1800.00		5514.29	5781.06	5757.73
60 Ni # 2	6.536	6.536	ug/l	2.09	1800.00		7094.74	7240.36	7038.05
63 Cu # 2	6.034	6.034	ug/l	1.60	1800.00		18399.24	18461.55	18088.92
66 Zn # 3	5.394	5.394	ug/l	1.44	1800.00		10863.47	11173.68	11003.54
75 As # 2	14.49	14.49	ug/l	1.52	100.00		4609.59	4640.60	4551.91
78 Se # 1	1.13	1.13	ug/l	11.09	100.00		294.34	251.00	306.00
88 Sr # 3	15.06	15.06	ug/l	1.61	1800.00		368019.09	367278.63	367297.50
95 Mo # 3	11.89	11.89	ug/l	1.43	1800.00		43524.02	42123.74	43366.81
107 Ag # 3	0.007129	0.007129	ug/l	19.04	100.00		183.34	170.01	200.01
111 Cd # 3	0.04648	0.04648	ug/l	8.68	100.00		117.10	100.74	103.80
118 Sn # 3	0.1581	0.1581	ug/l	13.72	1800.00		1696.80	1593.46	1910.16
121 Sb # 3	0.3351	0.3351	ug/l	2.87	100.00		2823.65	2680.29	2860.32
137 Ba # 3	8.203	8.203	ug/l	0.21	1800.00		29689.77	29649.76	30110.55
202 Hg # 3	-0.00601	-0.00601	ug/l	56.79	5.00		103.33	92.67	84.33
205 Tl # 3	0.005469	0.005469	ug/l	31.30	20.00		343.35	263.34	303.35
208 Pb # 3	5.712	5.712	ug/l	0.09	1800.00		185257.47	185631.19	185241.58
232 Th # 3	0.4422	0.4422	ug/l	2.15	#VALUE!		13799.96	13312.84	13933.51
238 U # 3	0.1408	0.1408	ug/l	2.23	#VALUE!		4407.44	4590.81	4474.14

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	387317.47	0.98	442436.88	87.5	60 - 125		385625.31	384650.00	391677.13
45 Sc # 1	399584.84	9.56	456299.72	87.6	60 - 125		442427.00	387226.38	369101.19
45 Sc # 3	693557.75	0.52	765061.25	90.7	60 - 125		690277.63	692962.56	697433.00
74 Ge # 1	135637.33	7.29	153441.28	88.4	60 - 125		147031.94	129332.20	130547.84
74 Ge # 2	41638.53	0.61	47804.94	87.1	60 - 125		41779.97	41343.44	41792.19
74 Ge # 3	204999.56	0.28	224564.78	91.3	60 - 125		204500.84	204865.05	205632.83
89 Y # 3	1255445.60	1.54	1302847.50	96.4	60 - 125		1239282.10	1250232.40	1276822.30
115 In # 3	1218059.40	0.73	1366177.60	89.2	60 - 125		1215655.00	1210609.40	1227913.60
159 Tb # 3	1748381.60	0.21	2052817.90	85.2	60 - 125		1746386.40	1752619.10	1746139.50
209 Bi # 3	1019053.80	0.36	1405468.50	72.5	60 - 125		1017637.60	1016331.60	1023192.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\100SMPL.D\100SMPL.D#
 Date Acquired: Aug 26 2014 08:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-3-a
 Misc Info: 3005 1/5
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007002	0.0007002	ug/l	158.10	100.00		3.33	3.33	0.00
11 B # 3	1.621	1.621	ug/l	8.59	1800.00		4620.66	4310.57	4413.94
23 Na # 1	9.363	9.363	ug/l	1.51	81000.00		113653.17	113861.09	113250.48
24 Mg # 1	8.444	8.444	ug/l	1.73	81000.00		19426.89	18816.24	19099.99
27 Al # 1	1.195	1.195	ug/l	3.19	81000.00		4590.67	4530.67	4410.63
39 K # 2	-6.779	-6.779	ug/l	3.26	81000.00		9596.02	9943.03	9889.52
40 Ca # 1	28.71	28.71	ug/l	0.94	81000.00		193016.14	193555.94	190959.41
47 Ti # 3	-0.02578	-0.02578	ug/l	29.48	1620.00		83.34	70.00	76.67
51 V # 2	0.1339	0.1339	ug/l	10.58	1800.00		526.68	514.46	580.01
52 Cr # 2	-0.001595	-0.001595	ug/l	440.50	1800.00		276.67	324.45	295.56
55 Mn # 3	0.04919	0.04919	ug/l	12.38	1800.00		2186.85	2390.22	2340.22
56 Fe # 1	1.951	1.951	ug/l	1.12	81000.00		19100.20	19006.90	18816.67
59 Co # 3	-0.001186	-0.001186	ug/l	17.13	1800.00		50.00	46.67	53.33
60 Ni # 2	0.07569	0.07569	ug/l	6.15	1800.00		133.34	127.78	126.67
63 Cu # 2	-0.05994	-0.05994	ug/l	9.50	1800.00		235.56	221.11	205.56
66 Zn # 3	0.6354	0.6354	ug/l	7.11	1800.00		1866.81	1783.48	2003.50
75 As # 2	0.06402	0.06402	ug/l	15.16	100.00		30.67	37.67	34.33
78 Se # 1	-0.04913	-0.04913	ug/l	21.96	100.00		8.33	4.00	8.67
88 Sr # 3	0.2874	0.2874	ug/l	2.52	1800.00		7301.69	7231.71	7071.60
95 Mo # 3	-0.004669	-0.004669	ug/l	142.81	1800.00		123.34	76.67	83.34
107 Ag # 3	-0.001801	-0.001801	ug/l	114.38	100.00		80.00	123.34	96.67
111 Cd # 3	-0.0003279	-0.0003279	ug/l	669.11	100.00		-0.03	6.65	9.98
118 Sn # 3	-0.02006	-0.02006	ug/l	23.94	1800.00		563.36	560.03	506.69
121 Sb # 3	0.001276	0.001276	ug/l	107.84	100.00		60.00	36.67	53.34
137 Ba # 3	0.02432	0.02432	ug/l	26.06	1800.00		113.34	120.00	160.01
202 Hg # 3	-0.02128	-0.02128	ug/l	9.00	5.00		58.00	52.33	47.33
205 Tl # 3	-0.006354	-0.006354	ug/l	7.43	20.00		13.33	23.33	36.67
208 Pb # 3	-0.01456	-0.01456	ug/l	9.54	1800.00		826.70	853.38	770.03
232 Th # 3	0.0168	0.0168	ug/l	7.67	#VALUE!		863.39	776.71	846.71
238 U # 3	-0.0001007	-0.0001007	ug/l	191.66	#VALUE!		16.67	30.00	20.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	404080.66	1.07	442436.88	91.3	60 - 125		399962.69	403715.06	408564.22
45 Sc # 1	398437.88	0.12	456299.72	87.3	60 - 125		398038.00	398286.69	398988.94
45 Sc # 3	705679.13	1.70	765061.25	92.2	60 - 125		696300.81	719195.88	701540.81
74 Ge # 1	139183.42	0.03	153441.28	90.7	60 - 125		139195.63	139217.30	139137.36
74 Ge # 2	42132.21	1.22	47804.94	88.1	60 - 125		41556.17	42539.41	42301.06
74 Ge # 3	212901.47	1.07	224564.78	94.8	60 - 125		212466.31	210871.48	215366.61
89 Y # 3	1262236.10	0.85	1302847.50	96.9	60 - 125		1251357.00	1262525.40	1272825.90
115 In # 3	1291550.80	0.59	1366177.60	94.5	60 - 125		1287371.40	1286952.40	1300328.50
159 Tb # 3	1812190.00	0.50	2052817.90	88.3	60 - 125		1807112.90	1806709.10	1822747.90
209 Bi # 3	1164664.80	0.69	1405468.50	82.9	60 - 125		1159647.50	1160462.80	1173884.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\101SMPL.D\101SMPL.D#
 Date Acquired: Aug 26 2014 08:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-4-a
 Misc Info: 3005 1/5
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003813	0.003813	ug/l	29.40	100.00		6.67	10.00	6.67
11 B #3	951	951	ug/l	0.84	1800.00		1323058.40	1320402.10	1338944.50
23 Na #1	123900	123900	ug/l	4.37	81000.00		391812100.00	387494270.00	388312000.00
24 Mg #1	47240	47240	ug/l	4.10	81000.00		104422410.00	103547180.00	104113650.00
27 Al #1	1.932	1.932	ug/l	9.02	81000.00		6723.29	6201.19	6709.45
39 K #2	7601	7601	ug/l	0.72	81000.00		2401391.80	2394933.00	2394761.80
40 Ca #1	112800	112800	ug/l	3.79	81000.00		682803260.00	680777280.00	684387970.00
47 Ti #3	0.08888	0.08888	ug/l	27.69	1620.00		230.01	180.01	230.01
51 V #2	0.1857	0.1857	ug/l	3.44	1800.00		672.24	678.91	651.13
52 Cr #2	0.03621	0.03621	ug/l	32.26	1800.00		447.79	390.01	394.45
55 Mn #3	600.8	600.8	ug/l	0.57	1800.00		11125821.00	11128758.00	11173311.00
56 Fe #1	745.2	745.2	ug/l	4.00	81000.00		5905176.50	5850626.00	5911132.00
59 Co #3	0.3308	0.3308	ug/l	3.11	1800.00		4827.43	4534.04	4777.41
60 Ni #2	0.5996	0.5996	ug/l	4.17	1800.00		731.13	692.24	688.91
63 Cu #2	-0.04724	-0.04724	ug/l	6.24	1800.00		262.23	250.00	265.56
66 Zn #3	1.053	1.053	ug/l	3.91	1800.00		2853.65	2716.95	2733.61
75 As #2	0.5586	0.5586	ug/l	3.77	100.00		198.67	192.67	187.00
78 Se #1	-0.01353	-0.01353	ug/l	46.12	100.00		15.00	17.00	14.00
88 Sr #3	1929	1929	ug/l	0.11	1800.00	Fail	48173064.00	48502324.00	48624120.00
95 Mo #3	0.01435	0.01435	ug/l	50.09	1800.00		153.34	190.01	140.00
107 Ag #3	-0.001576	-0.001576	ug/l	205.90	100.00		60.00	113.34	123.34
111 Cd #3	0.006764	0.006764	ug/l	78.16	100.00		19.97	33.29	9.97
118 Sn #3	-0.01126	-0.01126	ug/l	38.57	1800.00		550.02	613.36	593.36
121 Sb #3	0.01394	0.01394	ug/l	20.52	100.00		170.01	126.67	166.67
137 Ba #3	2.786	2.786	ug/l	1.71	1800.00		10433.54	10153.33	10540.23
202 Hg #3	-0.01947	-0.01947	ug/l	24.66	5.00		59.34	66.67	42.00
205 Tl #3	-0.005108	-0.005108	ug/l	8.54	20.00		43.33	63.34	53.34
208 Pb #3	-0.0009827	-0.0009827	ug/l	407.35	1800.00		1300.07	1293.40	1103.38
232 Th #3	0.02094	0.02094	ug/l	12.41	#VALUE!		890.05	803.38	740.05
238 U #3	0.07545	0.07545	ug/l	0.62	#VALUE!		2316.92	2286.93	2303.59

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	409927.38	0.74	442436.88	92.7	60 - 125		412469.38	406553.06	410759.69
45 Sc #1	408635.97	3.73	456299.72	89.6	60 - 125		391303.66	414697.16	419907.06
45 Sc #3	768500.06	1.24	765061.25	100.4	60 - 125		762787.25	763230.13	779482.88
74 Ge #1	136842.94	1.39	153441.28	89.2	60 - 125		134651.03	138020.03	137857.75
74 Ge #2	42174.52	0.56	47804.94	88.2	60 - 125		41904.69	42334.52	42284.38
74 Ge #3	216410.77	0.81	224564.78	96.4	60 - 125		215595.02	215221.03	218416.25
89 Y #3	1292665.40	0.39	1302847.50	99.2	60 - 125		1287327.80	1293291.60	1297376.80
115 In #3	1245041.10	0.85	1366177.60	91.1	60 - 125		1236056.30	1242397.30	1256669.90
159 Tb #3	1759332.60	1.64	2052817.90	85.7	60 - 125		1751842.50	1734971.40	1791184.10
209 Bi #3	971048.00	0.06	1405468.50	69.1	60 - 125		971140.00	970442.50	971561.56

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\102SMPL.D\102SMPL.D#
 Date Acquired: Aug 26 2014 08:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-5-a
 Misc Info: 3005 1/5
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001243	0.001243	ug/l	146.34	100.00		3.33	6.67	0.00
11 B # 3	67.32	67.32	ug/l	1.23	1800.00		100256.47	98249.66	99468.48
23 Na # 1	7915	7915	ug/l	17.26	81000.00		26360956.00	26087972.00	26277504.00
24 Mg # 1	6257	6257	ug/l	17.80	81000.00		14640146.00	14270185.00	14560491.00
27 Al # 1	1.369	1.369	ug/l	23.16	81000.00		5540.94	5287.56	5210.94
39 K # 2	3916	3916	ug/l	1.31	81000.00		1323330.80	1332131.50	1313885.50
40 Ca # 1	34790	34790	ug/l	17.16	81000.00		222472740.00	220320930.00	221753660.00
47 Ti # 3	0.2911	0.2911	ug/l	12.28	1620.00		440.02	400.02	476.69
51 V # 2	0.1682	0.1682	ug/l	1.08	1800.00		665.57	658.91	674.46
52 Cr # 2	0.05125	0.05125	ug/l	16.32	1800.00		501.12	496.68	458.90
55 Mn # 3	170.6	170.6	ug/l	0.26	1800.00		3272240.30	3278722.50	3289454.00
56 Fe # 1	6172	6172	ug/l	17.39	81000.00		51869684.00	50687780.00	51274700.00
59 Co # 3	0.05163	0.05163	ug/l	9.54	1800.00		900.05	803.38	760.04
60 Ni # 2	0.1493	0.1493	ug/l	14.11	1800.00		232.23	242.23	197.78
63 Cu # 2	-0.04476	-0.04476	ug/l	7.96	1800.00		295.56	281.12	276.67
66 Zn # 3	0.2577	0.2577	ug/l	19.54	1800.00		1096.73	1303.42	1156.74
75 As # 2	1.813	1.813	ug/l	3.15	100.00		646.35	610.68	647.01
78 Se # 1	-0.01601	-0.01601	ug/l	34.85	100.00		15.00	17.33	14.67
88 Sr # 3	197.3	197.3	ug/l	2.29	1800.00		5055134.00	4969545.50	4936923.50
95 Mo # 3	0.7231	0.7231	ug/l	3.91	1800.00		2836.97	3080.37	2883.64
107 Ag # 3	-0.003725	-0.003725	ug/l	44.62	100.00		60.00	86.67	96.67
111 Cd # 3	0.001256	0.001256	ug/l	223.25	100.00		9.38	15.99	2.70
118 Sn # 3	-0.01651	-0.01651	ug/l	24.22	1800.00		593.36	550.03	596.69
121 Sb # 3	0.05657	0.05657	ug/l	11.44	100.00		596.70	496.69	530.02
137 Ba # 3	42.2	42.2	ug/l	1.95	1800.00		166840.39	165736.52	164151.59
202 Hg # 3	-0.02547	-0.02547	ug/l	0.25	5.00		40.67	41.00	40.67
205 Tl # 3	-0.005238	-0.005238	ug/l	5.32	20.00		50.00	46.67	60.00
208 Pb # 3	0.0104	0.0104	ug/l	8.41	1800.00		1620.09	1683.42	1690.09
232 Th # 3	0.009537	0.009537	ug/l	18.35	#VALUE!		586.70	503.36	580.03
238 U # 3	0.05153	0.05153	ug/l	5.81	#VALUE!		1856.84	1756.83	1883.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	423830.03	0.42	442436.88	95.8	60 - 125		422210.38	423560.81	425718.91
45 Sc # 1	438221.00	17.32	456299.72	96.0	60 - 125		426171.72	519400.22	369091.09
45 Sc # 3	763656.00	1.65	765061.25	99.8	60 - 125		749409.44	773236.31	768322.19
74 Ge # 1	146611.56	15.74	153441.28	95.5	60 - 125		147015.69	169476.13	123342.86
74 Ge # 2	44981.95	0.68	47804.94	94.1	60 - 125		44766.95	44848.32	45330.58
74 Ge # 3	224243.13	0.01	224564.78	99.9	60 - 125		224246.25	224208.09	224275.02
89 Y # 3	1300997.80	1.30	1302847.50	99.9	60 - 125		1285062.40	1318670.80	1299260.30
115 In # 3	1316358.10	1.20	1366177.60	96.4	60 - 125		1298054.00	1325024.00	1325996.30
159 Tb # 3	1827082.50	0.58	2052817.90	89.0	60 - 125		1814967.00	1835007.50	1831272.90
209 Bi # 3	1127889.00	3.72	1405468.50	80.3	60 - 125		1079898.80	1145889.00	1157879.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\103_QCS.D\103_QCS.D#
 Date Acquired: Aug 26 2014 08:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	16.56	0.10 69.5 - 130	
11 B	24.82 ug/l	1.41	20.00 69.5 - 130	
23 Na	48.05 ug/l	1.14	50.00 69.5 - 130	
24 Mg	55.89 ug/l	0.61	50.00 69.5 - 130	
27 Al	11.16 ug/l	0.81	10.00 69.5 - 130	
39 K	38.91 ug/l	26.45	50.00 69.5 - 130	
40 Ca	57.78 ug/l	0.40	50.00 69.5 - 130	
47 Ti	0.95 ug/l	5.52	1.00 69.5 - 130	
51 V	0.94 ug/l	14.13	1.00 69.5 - 130	
52 Cr	0.98 ug/l	15.99	1.00 69.5 - 130	
55 Mn	1.00 ug/l	1.63	1.00 69.5 - 130	
56 Fe	23.65 ug/l	0.13	20.00 69.5 - 130	
59 Co	0.10 ug/l	3.92	0.10 69.5 - 130	
60 Ni	0.98 ug/l	16.54	1.00 69.5 - 130	
63 Cu	0.90 ug/l	12.91	1.00 69.5 - 130	
66 Zn	3.77 ug/l	3.00	4.00 69.5 - 130	
75 As	0.49 ug/l	5.08	0.50 69.5 - 130	
78 Se	0.45 ug/l	0.90	0.50 69.5 - 130	
88 Sr	0.19 ug/l	1.09	0.20 69.5 - 130	
95 Mo	0.95 ug/l	2.83	1.00 69.5 - 130	
107 Ag	0.20 ug/l	2.13	0.20 69.5 - 130	
111 Cd	0.09 ug/l	17.86	0.10 69.5 - 130	
118 Sn	0.91 ug/l	1.94	1.00 69.5 - 130	
121 Sb	0.94 ug/l	1.50	1.00 69.5 - 130	
137 Ba	0.98 ug/l	3.73	1.00 69.5 - 130	
202 Hg	0.12 ug/l	1.52	0.16 69.5 - 130	
205 Tl	0.18 ug/l	4.81	0.20 69.5 - 130	
208 Pb	0.25 ug/l	1.50	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	399730.84	0.53	442436.88	90.3	60 - 125	
45 Sc	394086.63	0.27	456299.72	86.4	60 - 125	
45 Sc	690196.69	0.98	765061.25	90.2	60 - 125	
74 Ge	137989.39	0.29	153441.28	89.9	60 - 125	
74 Ge	42855.47	10.85	47804.94	89.6	60 - 125	
74 Ge	209447.02	1.13	224564.78	93.3	60 - 125	
89 Y	1246274.40	1.06	1302847.50	95.7	60 - 125	
115 In	1294409.10	1.25	1366177.60	94.7	60 - 125	
159 Tb	1791456.00	1.31	2052817.90	87.3	60 - 125	
209 Bi	1141134.40	3.36	1405468.50	81.2	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\104_CCV.D\104_CCV.D#
 Date Acquired: Aug 26 2014 08:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.49 ug/l	0.70	50.00	89.5 - 110		82924.59	85251.45	84240.27
11 B	97.56 ug/l	0.30	100.00	89.5 - 110		131241.42	133339.30	132877.55
23 Na	5219 ug/l	0.69	5000.00	89.5 - 110		16040363.00	15847398.00	15981383.00
24 Mg	5096 ug/l	0.69	5000.00	89.5 - 110		10900732.00	10903170.00	10809129.00
27 Al	534.7 ug/l	0.79	500.00	89.5 - 110		1353228.30	1365176.50	1347291.40
39 K	5011 ug/l	1.21	5000.00	89.5 - 110		1601801.10	1618307.00	1585667.50
40 Ca	5311 ug/l	0.56	5000.00	89.5 - 110		31278276.00	31106736.00	31060752.00
47 Ti	51.85 ug/l	0.59	50.00	89.5 - 110		52323.42	52624.32	53028.73
51 V	49.41 ug/l	0.39	50.00	89.5 - 110		122037.59	122214.23	122393.22
52 Cr	48.64 ug/l	0.11	50.00	89.5 - 110		144746.45	146176.33	146490.16
55 Mn	504.6 ug/l	0.60	500.00	89.5 - 110		8987542.00	9033272.00	9113282.00
56 Fe	5460 ug/l	0.49	5000.00	89.5 - 110		41905136.00	41735248.00	41668112.00
59 Co	49.98 ug/l	0.26	50.00	89.5 - 110		676757.63	677101.63	681254.69
60 Ni	50.33 ug/l	0.69	50.00	89.5 - 110		55930.62	55995.14	55709.89
63 Cu	48.9 ug/l	1.03	50.00	89.5 - 110		149832.25	149407.61	148213.84
66 Zn	48.6 ug/l	0.33	50.00	89.5 - 110		96237.27	96006.34	97108.43
75 As	50.96 ug/l	0.35	50.00	89.5 - 110		16467.08	16605.19	16527.80
78 Se	50.55 ug/l	1.96	50.00	89.5 - 110		12289.82	12046.99	12155.72
88 Sr	48.73 ug/l	0.35	50.00	89.5 - 110		1176870.90	1179889.80	1198203.50
95 Mo	50.48 ug/l	0.67	50.00	89.5 - 110		188325.63	188864.08	189214.73
107 Ag	48.43 ug/l	1.15	50.00	89.5 - 110		502204.25	507114.47	509364.25
111 Cd	48.3 ug/l	1.01	50.00	89.5 - 110		108611.49	108825.61	109792.11
118 Sn	49.02 ug/l	0.30	50.00	89.5 - 110		349095.16	348400.41	348010.75
121 Sb	48.05 ug/l	0.58	50.00	89.5 - 110		408162.50	409097.81	409334.31
137 Ba	48.7 ug/l	0.73	50.00	89.5 - 110		183449.23	184955.16	181440.80
202 Hg	2.493 ug/l	0.89	2.50	89.5 - 110		7174.64	7190.63	7305.37
205 Tl	9.265 ug/l	0.39	10.00	89.5 - 110		224535.72	223723.75	223174.73
208 Pb	46.78 ug/l	0.36	50.00	89.5 - 110		1533963.90	1540507.80	1542812.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	392971.75	0.69	442436.88	88.8	60 - 125		390285.81	395732.91	392896.53
45 Sc	395423.53	0.21	456299.72	86.7	60 - 125		394674.19	395282.16	396314.25
45 Sc	688920.19	0.64	765061.25	90.0	60 - 125		688765.31	684589.06	693406.25
74 Ge	138548.11	1.08	153441.28	90.3	60 - 125		136875.08	139001.16	139768.11
74 Ge	42642.28	0.52	47804.94	89.2	60 - 125		42386.89	42737.67	42802.29
74 Ge	209124.05	0.35	224564.78	93.1	60 - 125		209242.97	208349.86	209779.30
89 Y	1251542.00	0.76	1302847.50	96.1	60 - 125		1242468.10	1250758.40	1261399.40
115 In	1262357.10	0.44	1366177.60	92.4	60 - 125		1267345.30	1263374.80	1256351.50
159 Tb	1783086.30	0.21	2052817.90	86.9	60 - 125		1784143.10	1779011.90	1786103.90
209 Bi	1099955.50	2.66	1405468.50	78.3	60 - 125		1133512.30	1079718.80	1086635.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\105_CCB.D\105_CCB.D#
 Date Acquired: Aug 26 2014 08:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.002046	0.002046	ug/l	55.47	#VALUE!		3.33	6.67	3.33
11 B #3	4.363	4.363	ug/l	3.20	#VALUE!		8121.90	7798.42	7958.46
23 Na #1	-7.498	-7.498	ug/l	2.49	#VALUE!		59522.23	60695.67	59873.15
24 Mg #1	0.2703	0.2703	ug/l	8.27	#VALUE!		1540.10	1450.09	1503.43
27 Al #1	0.09398	0.09398	ug/l	22.64	#VALUE!		1636.78	1603.44	1706.80
39 K #2	-10.64	-10.64	ug/l	3.38	#VALUE!		8465.49	8612.16	8628.86
40 Ca #1	0.9876	0.9876	ug/l	4.16	#VALUE!		28101.47	27687.53	27967.97
47 Ti #3	-0.06825	-0.06825	ug/l	22.51	#VALUE!		46.67	30.00	16.67
51 V #2	-0.007325	-0.007325	ug/l	108.45	#VALUE!		176.67	214.45	194.45
52 Cr #2	-0.01392	-0.01392	ug/l	31.77	#VALUE!		276.67	257.78	250.00
55 Mn #3	0.02005	0.02005	ug/l	24.22	#VALUE!		1733.47	1633.45	1810.13
56 Fe #1	1.06	1.06	ug/l	0.24	#VALUE!		11703.97	11750.69	11760.68
59 Co #3	0.000237	0.000237	ug/l	667.51	#VALUE!		43.33	83.34	76.67
60 Ni #2	-0.02296	-0.02296	ug/l	19.23	#VALUE!		23.33	24.44	15.56
63 Cu #2	-0.08805	-0.08805	ug/l	3.09	#VALUE!		128.89	144.45	134.45
66 Zn #3	-0.1191	-0.1191	ug/l	23.38	#VALUE!		353.35	306.68	416.68
75 As #2	0.01188	0.01188	ug/l	26.64	#VALUE!		17.67	18.33	16.33
78 Se #1	-0.04056	-0.04056	ug/l	19.02	#VALUE!		10.67	7.00	9.00
88 Sr #3	0.005536	0.005536	ug/l	55.40	#VALUE!		196.67	336.68	310.01
95 Mo #3	0.02722	0.02722	ug/l	11.91	#VALUE!		200.01	210.01	223.34
107 Ag #3	-0.001669	-0.001669	ug/l	113.78	#VALUE!		76.67	106.67	113.34
111 Cd #3	0.001701	0.001701	ug/l	87.24	#VALUE!		6.62	9.95	13.28
118 Sn #3	0.01144	0.01144	ug/l	113.02	#VALUE!		836.72	770.04	653.36
121 Sb #3	0.0187	0.0187	ug/l	11.89	#VALUE!		200.01	213.34	176.67
137 Ba #3	0.000345	0.000345	ug/l	791.01	#VALUE!		40.00	46.67	26.67
202 Hg #3	0.006359	0.006359	ug/l	25.66	#VALUE!		122.00	132.00	134.67
205 Tl #3	-0.003496	-0.003496	ug/l	9.37	#VALUE!		96.67	83.34	96.67
208 Pb #3	-0.02405	-0.02405	ug/l	8.45	#VALUE!		450.02	563.36	450.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	391472.19	0.45	442436.88	88.5	60 - 125		389622.38	391697.50	393096.66
45 Sc #1	386315.81	0.10	456299.72	84.7	60 - 125		385871.78	386590.63	386485.06
45 Sc #3	673416.38	0.57	765061.25	88.0	60 - 125		669378.88	673844.88	677025.38
74 Ge #1	136390.44	0.38	153441.28	88.9	60 - 125		136327.50	135909.14	136934.64
74 Ge #2	41998.20	0.26	47804.94	87.9	60 - 125		42126.26	41938.07	41930.26
74 Ge #3	207052.89	0.41	224564.78	92.2	60 - 125		206159.55	207134.77	207864.34
89 Y #3	1219190.50	0.71	1302847.50	93.6	60 - 125		1210300.60	1227643.30	1219627.80
115 In #3	1259844.50	0.41	1366177.60	92.2	60 - 125		1265081.90	1254705.90	1259745.60
159 Tb #3	1768494.10	1.81	2052817.90	86.1	60 - 125		1737441.80	1766744.50	1801296.30
209 Bi #3	1115000.90	2.03	1405468.50	79.3	60 - 125		1096000.80	1140002.50	1108999.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\106SMPL.D\106SMPL.D#
 Date Acquired: Aug 26 2014 08:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345859_1-a
 Misc Info: 200.8TR 1/5
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002697	0.002697	ug/l	84.39	100.00		10.00	3.33	3.33
11 B # 3	3.229	3.229	ug/l	4.77	1800.00		6664.61	6447.93	6291.18
23 Na # 1	-7.866	-7.866	ug/l	6.20	81000.00		57776.89	60684.41	58171.43
24 Mg # 1	0.4396	0.4396	ug/l	6.59	81000.00		1793.47	1920.15	1833.47
27 Al # 1	1.353	1.353	ug/l	2.72	81000.00		4850.77	4707.36	4717.37
39 K # 2	-10.38	-10.38	ug/l	3.08	81000.00		8508.80	8772.27	8742.24
40 Ca # 1	2.921	2.921	ug/l	3.31	81000.00		38229.16	39231.26	39388.22
47 Ti # 3	-0.05053	-0.05053	ug/l	42.03	1620.00		36.67	73.34	36.67
51 V # 2	-0.006486	-0.006486	ug/l	29.11	1800.00		191.11	201.11	201.11
52 Cr # 2	-0.01814	-0.01814	ug/l	47.13	1800.00		246.67	275.56	226.67
55 Mn # 3	0.008483	0.008483	ug/l	52.61	1800.00		1536.78	1426.76	1583.45
56 Fe # 1	0.513	0.513	ug/l	5.26	81000.00		7408.35	7841.89	7688.54
59 Co # 3	-0.001816	-0.001816	ug/l	36.56	1800.00		50.00	36.67	33.33
60 Ni # 2	0.02438	0.02438	ug/l	50.45	1800.00		84.45	75.56	58.89
63 Cu # 2	-0.07028	-0.07028	ug/l	16.63	1800.00		177.78	228.89	162.22
66 Zn # 3	0.05211	0.05211	ug/l	20.65	1800.00		700.04	666.70	706.70
75 As # 2	0.0006439	0.0006439	ug/l	454.73	100.00		14.67	14.00	13.00
78 Se # 1	-0.05087	-0.05087	ug/l	12.23	100.00		5.00	8.00	6.33
88 Sr # 3	0.004679	0.004679	ug/l	30.50	1800.00		233.34	256.68	300.01
95 Mo # 3	-0.0101	-0.0101	ug/l	13.04	1800.00		73.34	66.67	76.67
107 Ag # 3	-0.003736	-0.003736	ug/l	26.34	100.00		73.34	70.00	90.00
111 Cd # 3	0.001207	0.001207	ug/l	142.83	100.00		13.32	6.65	6.65
118 Sn # 3	-0.03043	-0.03043	ug/l	16.00	1800.00		426.69	496.69	453.35
121 Sb # 3	0.004521	0.004521	ug/l	9.31	100.00		76.67	80.00	73.34
137 Ba # 3	0.008556	0.008556	ug/l	44.13	1800.00		80.00	73.34	53.34
202 Hg # 3	-0.004352	-0.004352	ug/l	105.70	5.00		114.34	94.67	90.00
205 Tl # 3	-0.004901	-0.004901	ug/l	6.49	20.00		50.00	63.34	63.34
208 Pb # 3	-0.02238	-0.02238	ug/l	11.06	1800.00		596.69	583.36	453.35
232 Th # 3	0.02449	0.02449	ug/l	12.93	#VALUE!		943.39	1150.09	1173.43
238 U # 3	0.001017	0.001017	ug/l	29.59	#VALUE!		66.67	70.00	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392505.69	0.30	442436.88	88.7	60 - 125		391588.47	392097.50	393831.13
45 Sc # 1	385917.72	0.25	456299.72	84.6	60 - 125		384940.53	386833.06	385979.59
45 Sc # 3	675488.56	0.37	765061.25	88.3	60 - 125		672695.75	676255.81	677513.88
74 Ge # 1	136221.34	0.76	153441.28	88.8	60 - 125		135032.48	136680.34	136951.19
74 Ge # 2	42106.23	0.72	47804.94	88.1	60 - 125		41801.10	42111.75	42405.84
74 Ge # 3	206414.03	0.21	224564.78	91.9	60 - 125		206050.52	206307.98	206883.58
89 Y # 3	1232626.00	0.13	1302847.50	94.6	60 - 125		1234303.80	1232452.60	1231122.00
115 In # 3	1265847.90	0.59	1366177.60	92.7	60 - 125		1258734.80	1265273.60	1273535.30
159 Tb # 3	1776890.80	0.42	2052817.90	86.6	60 - 125		1775133.90	1770424.50	1785114.40
209 Bi # 3	1155515.80	1.86	1405468.50	82.2	60 - 125		1131831.80	1173625.60	1161089.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\107SMPL.D\107SMPL.D#
 Date Acquired: Aug 26 2014 08:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345859_2-a
 Misc Info: 200.8TR 1/5
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.15	10.15	ug/l	3.09	100.00		17751.77	16984.41	18102.03
11 B # 3	39.3	39.3	ug/l	0.53	1800.00		55572.68	56077.54	55776.71
23 Na # 1	1051	1051	ug/l	0.72	81000.00		3257103.80	3247566.50	3284070.00
24 Mg # 1	1060	1060	ug/l	0.84	81000.00		2258389.30	2242070.00	2249167.00
27 Al # 1	1069	1069	ug/l	0.19	81000.00		2683245.50	2697744.00	2701477.50
39 K # 2	986.3	986.3	ug/l	0.76	81000.00		322815.06	324661.03	326684.59
40 Ca # 1	1101	1101	ug/l	0.71	81000.00		6457892.50	6431827.50	6435974.00
47 Ti # 3	20.46	20.46	ug/l	1.68	1620.00		20708.46	21062.22	20381.43
51 V # 2	19.37	19.37	ug/l	0.73	1800.00		48533.75	47675.98	47812.93
52 Cr # 2	19.48	19.48	ug/l	0.48	1800.00		58799.68	58504.20	58241.23
55 Mn # 3	104.5	104.5	ug/l	0.26	1800.00		1867120.00	1888042.00	1887778.90
56 Fe # 1	1116	1116	ug/l	0.89	81000.00		8539507.00	8484775.00	8476218.00
59 Co # 3	10.28	10.28	ug/l	0.77	1800.00		139429.84	141180.66	139596.20
60 Ni # 2	20.24	20.24	ug/l	1.27	1800.00		22220.09	22475.93	22736.23
63 Cu # 2	19.43	19.43	ug/l	0.78	1800.00		59836.30	59566.66	58982.50
66 Zn # 3	19.8	19.8	ug/l	0.61	1800.00		39860.46	39689.95	39853.88
75 As # 2	20.39	20.39	ug/l	0.62	100.00		6624.54	6642.22	6589.86
78 Se # 1	20.94	20.94	ug/l	0.52	100.00		5050.38	5037.71	5046.04
88 Sr # 3	18.57	18.57	ug/l	1.40	1800.00		450668.94	453204.78	448632.50
95 Mo # 3	19.75	19.75	ug/l	0.43	1800.00		74693.54	74519.43	75570.63
107 Ag # 3	9.854	9.854	ug/l	0.33	100.00		104271.72	104097.62	105160.74
111 Cd # 3	9.831	9.831	ug/l	0.69	100.00		22298.30	22678.94	22555.18
118 Sn # 3	39.53	39.53	ug/l	0.15	1800.00		283590.06	285221.22	286209.59
121 Sb # 3	9.864	9.864	ug/l	1.05	100.00		84961.78	85768.77	84602.91
137 Ba # 3	19.3	19.3	ug/l	0.22	1800.00		73080.80	73763.55	74081.59
202 Hg # 3	0.8744	0.8744	ug/l	0.66	5.00		2614.22	2655.90	2629.89
205 Tl # 3	7.443	7.443	ug/l	1.37	20.00		178320.80	182676.14	184134.06
208 Pb # 3	9.448	9.448	ug/l	0.48	1800.00		312314.31	316542.31	316551.78
232 Th # 3	9.815	9.815	ug/l	2.48	#VALUE!		333089.13	339121.47	340945.53
238 U # 3	9.494	9.494	ug/l	2.67	#VALUE!		336024.78	341712.56	342291.28

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	401233.22	0.29	442436.88	90.7	60 - 125		400338.13	400837.69	402523.84
45 Sc # 1	393407.09	0.49	456299.72	86.2	60 - 125		391212.72	394767.47	394241.09
45 Sc # 3	684710.88	0.33	765061.25	89.5	60 - 125		682067.25	685987.19	686078.25
74 Ge # 1	138396.03	0.46	153441.28	90.2	60 - 125		137760.52	138406.72	139020.88
74 Ge # 2	42607.00	0.30	47804.94	89.1	60 - 125		42715.45	42463.70	42641.84
74 Ge # 3	209899.33	0.52	224564.78	93.5	60 - 125		208747.36	210054.97	210895.64
89 Y # 3	1249398.00	1.11	1302847.50	95.9	60 - 125		1235397.00	1249674.90	1263122.10
115 In # 3	1279522.30	0.57	1366177.60	93.7	60 - 125		1272558.80	1278889.50	1287118.40
159 Tb # 3	1801648.90	0.30	2052817.90	87.8	60 - 125		1795446.40	1804033.30	1805467.00
209 Bi # 3	1151037.80	3.64	1405468.50	81.9	60 - 125		1103091.50	1169882.80	1180139.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\108SMPL.D\108SMPL.D#
 Date Acquired: Aug 26 2014 09:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62412-b-2-d
 Misc Info: 200.8TR 1/5
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.128E-005	7.128E-005	ug/l	1578.30	100.00		0.00	0.00	3.33
11 B # 3	47.87	47.87	ug/l	1.44	1800.00		65018.80	66403.19	67439.86
23 Na # 1	77580	77580	ug/l	1.56	81000.00		229890740.00	232820610.00	230585570.00
24 Mg # 1	2552	2552	ug/l	2.01	81000.00		5332449.00	5330352.00	5332065.00
27 Al # 1	3.611	3.611	ug/l	3.54	81000.00		10339.67	10669.94	10102.90
39 K # 2	3524	3524	ug/l	13.20	81000.00		1080989.30	1092793.90	1101539.60
40 Ca # 1	18170	18170	ug/l	2.07	81000.00		104353750.00	104622930.00	103824220.00
47 Ti # 3	0.3787	0.3787	ug/l	21.80	1620.00		400.01	483.36	576.74
51 V # 2	0.3118	0.3118	ug/l	9.02	1800.00		997.81	895.59	978.92
52 Cr # 2	0.06759	0.06759	ug/l	17.64	1800.00		520.01	465.57	497.79
55 Mn # 3	2.897	2.897	ug/l	0.88	1800.00		53193.24	52574.72	53644.48
56 Fe # 1	9.266	9.266	ug/l	1.09	81000.00		72427.79	73709.74	73548.58
59 Co # 3	0.05187	0.05187	ug/l	10.97	1800.00		806.71	676.70	816.71
60 Ni # 2	0.6723	0.6723	ug/l	8.88	1800.00		785.58	722.24	798.91
63 Cu # 2	0.3207	0.3207	ug/l	21.63	1800.00		1298.95	1367.84	1328.95
66 Zn # 3	3.072	3.072	ug/l	1.60	1800.00		6661.42	6514.68	6728.09
75 As # 2	0.3884	0.3884	ug/l	15.63	100.00		132.67	136.67	135.33
78 Se # 1	4.141	4.141	ug/l	2.10	100.00		1001.03	978.03	997.36
88 Sr # 3	58	58	ug/l	0.25	1800.00		1362632.50	1382614.50	1389352.50
95 Mo # 3	0.4877	0.4877	ug/l	3.07	1800.00		1946.83	1843.48	1843.48
107 Ag # 3	-0.003818	-0.003818	ug/l	49.58	100.00		53.33	90.00	80.00
111 Cd # 3	0.02088	0.02088	ug/l	29.10	100.00		49.57	39.60	66.26
118 Sn # 3	0.04111	0.04111	ug/l	11.79	1800.00		913.39	970.06	930.05
121 Sb # 3	0.9842	0.9842	ug/l	1.21	100.00		8182.16	8045.45	8295.57
137 Ba # 3	2.599	2.599	ug/l	1.06	1800.00		9673.04	9479.59	9456.26
202 Hg # 3	0.002964	0.002964	ug/l	123.68	5.00		125.67	122.34	108.00
205 Tl # 3	0.01225	0.01225	ug/l	11.00	20.00		496.69	446.69	450.02
208 Pb # 3	0.01302	0.01302	ug/l	10.37	1800.00		1663.42	1640.09	1736.76
232 Th # 3	0.135	0.135	ug/l	6.41	#VALUE!		4624.18	4177.35	4284.06
238 U # 3	0.03406	0.03406	ug/l	5.45	#VALUE!		1170.08	1073.41	1093.41

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	394049.97	0.46	442436.88	89.1	60 - 125		392028.91	394665.75	395455.19
45 Sc # 1	387233.81	1.97	456299.72	84.9	60 - 125		378447.63	392333.75	390920.03
45 Sc # 3	690707.06	0.95	765061.25	90.3	60 - 125		683746.44	691640.19	696734.56
74 Ge # 1	135618.42	0.83	153441.28	88.4	60 - 125		134720.47	136878.33	135256.47
74 Ge # 2	41638.80	12.36	47804.94	87.1	60 - 125		46546.06	36279.63	42090.71
74 Ge # 3	208469.28	0.79	224564.78	92.8	60 - 125		207011.50	208130.66	210265.67
89 Y # 3	1222986.30	0.90	1302847.50	93.9	60 - 125		1210310.50	1229264.90	1229383.40
115 In # 3	1226544.40	0.45	1366177.60	89.8	60 - 125		1230724.40	1220245.00	1228663.80
159 Tb # 3	1750995.40	0.88	2052817.90	85.3	60 - 125		1734157.90	1754667.90	1764160.60
209 Bi # 3	1027847.30	0.80	1405468.50	73.1	60 - 125		1018688.20	1030451.40	1034402.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\109SMPL.D\109SMPL.D#
 Date Acquired: Aug 26 2014 09:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62412-b-2-dSD
 Misc Info: 200.8TR 1/25
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006795	0.001359	ug/l	1.15	100.00		3.33	3.33	3.33
11 B # 3	58.85	11.77	ug/l	3.12	1800.00		18439.05	18125.52	17731.79
23 Na # 1	78400	15680	ug/l	0.72	81000.00		47482184.00	47742280.00	48231524.00
24 Mg # 1	2671	534.2	ug/l	1.49	81000.00		1129497.80	1133997.90	1161777.80
27 Al # 1	8.445	1.689	ug/l	2.24	81000.00		5740.99	5641.00	5814.68
39 K # 2	3358.5	671.7	ug/l	0.40	81000.00		226664.53	226290.36	226944.19
40 Ca # 1	18300	3660	ug/l	0.80	81000.00		21396430.00	21394864.00	21685892.00
47 Ti # 3	0.14715	0.02943	ug/l	73.94	1620.00		120.00	116.67	156.68
51 V # 2	0.2438	0.04876	ug/l	17.30	1800.00		313.34	351.12	352.23
52 Cr # 2	-0.04893	-0.009786	ug/l	36.63	1800.00		288.89	268.89	281.12
55 Mn # 3	3.7035	0.7407	ug/l	1.25	1800.00		14849.61	15053.12	14616.11
56 Fe # 1	11.085	2.217	ug/l	0.40	81000.00		20802.11	21025.70	20852.16
59 Co # 3	0.04793	0.009586	ug/l	22.42	1800.00		163.34	210.01	220.01
60 Ni # 2	0.9565	0.1913	ug/l	2.43	1800.00		254.45	261.12	266.67
63 Cu # 2	0.14225	0.02845	ug/l	24.64	1800.00		493.34	517.79	475.57
66 Zn # 3	6.86	1.372	ug/l	6.63	1800.00		3237.06	3250.38	3547.11
75 As # 2	0.4315	0.0863	ug/l	8.97	100.00		39.33	42.33	44.67
78 Se # 1	3.93	0.786	ug/l	7.43	100.00		217.34	217.34	194.67
88 Sr # 3	55.95	11.19	ug/l	0.49	1800.00		270468.22	272765.78	271331.13
95 Mo # 3	0.4456	0.08912	ug/l	10.55	1800.00		443.35	486.69	416.68
107 Ag # 3	-0.02425	-0.00485	ug/l	79.26	100.00		20.00	86.67	93.34
111 Cd # 3	0.01536	0.003072	ug/l	164.91	100.00		6.57	6.56	26.58
118 Sn # 3	0.011345	0.002269	ug/l	231.47	1800.00		673.37	683.37	740.03
121 Sb # 3	0.953	0.1906	ug/l	2.30	100.00		1733.47	1660.13	1653.46
137 Ba # 3	2.574	0.5148	ug/l	1.95	1800.00		1990.19	2040.19	1970.17
202 Hg # 3	-0.02578	-0.005156	ug/l	11.41	5.00		96.00	98.67	101.00
205 Tl # 3	-0.00685	-0.00137	ug/l	75.33	20.00		123.34	173.34	140.00
208 Pb # 3	-0.05425	-0.01085	ug/l	7.38	1800.00		896.70	956.71	946.71
232 Th # 3	0.14175	0.02835	ug/l	7.24	#VALUE!		1183.43	1143.41	1283.42
238 U # 3	0.03501	0.007002	ug/l	16.05	#VALUE!		230.01	286.68	303.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	397817.19	0.81	442436.88	89.9	60 - 125		395372.69	396603.44	401475.41
45 Sc # 1	395832.59	0.28	456299.72	86.7	60 - 125		394659.63	396869.16	395969.00
45 Sc # 3	689997.44	0.25	765061.25	90.2	60 - 125		688028.00	691255.31	690708.94
74 Ge # 1	140021.47	0.72	153441.28	91.3	60 - 125		138910.09	140290.64	140863.66
74 Ge # 2	42917.33	0.37	47804.94	89.8	60 - 125		42738.86	42972.60	43040.54
74 Ge # 3	211724.91	0.72	224564.78	94.3	60 - 125		210450.42	213417.55	211306.77
89 Y # 3	1248084.30	0.58	1302847.50	95.8	60 - 125		1248746.90	1254924.10	1240581.60
115 In # 3	1279404.50	0.39	1366177.60	93.6	60 - 125		1285088.80	1276781.60	1276342.90
159 Tb # 3	1797852.00	0.82	2052817.90	87.6	60 - 125		1782772.50	1798404.40	1812379.40
209 Bi # 3	1138577.90	0.79	1405468.50	81.0	60 - 125		1147371.10	1129408.60	1138954.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\110SMPL.D\110SMPL.D#
 Date Acquired: Aug 26 2014 09:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62412-b-2-dPDS
 Misc Info: 200.8TR 1/5
 Vial Number: 2307
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	19.93	19.93	ug/l	3.41	100.00		34126.75	33579.19	33909.84
11 B # 3	86.39	86.39	ug/l	2.71	1800.00		117468.59	117235.98	117963.80
23 Na # 1	78790	78790	ug/l	2.96	81000.00		240318580.00	239132130.00	237480980.00
24 Mg # 1	4571	4571	ug/l	3.40	81000.00		9803846.00	9753635.00	9606043.00
27 Al # 1	218.3	218.3	ug/l	3.03	81000.00		555698.06	552911.38	548377.81
39 K # 2	5453	5453	ug/l	1.16	81000.00		1743614.60	1759238.30	1739078.30
40 Ca # 1	20130	20130	ug/l	2.71	81000.00		117638340.00	118207930.00	116986960.00
47 Ti # 3	21.48	21.48	ug/l	5.98	1620.00		22246.97	21886.59	22864.46
51 V # 2	20.41	20.41	ug/l	1.62	1800.00		50649.31	50384.26	51253.11
52 Cr # 2	19.19	19.19	ug/l	1.06	1800.00		57568.06	57853.35	58253.50
55 Mn # 3	208	208	ug/l	2.92	1800.00		3755240.30	3725667.80	3746237.00
56 Fe # 1	2170	2170	ug/l	2.96	81000.00		16569420.00	16673831.00	16407465.00
59 Co # 3	20.19	20.19	ug/l	2.52	1800.00		274563.50	275977.97	274533.19
60 Ni # 2	20.11	20.11	ug/l	0.40	1800.00		22165.54	22666.14	22421.37
63 Cu # 2	19.38	19.38	ug/l	1.56	1800.00		59645.83	59402.63	59520.80
66 Zn # 3	22.48	22.48	ug/l	2.28	1800.00		44861.93	45406.72	45035.73
75 As # 2	21.13	21.13	ug/l	1.76	100.00		6885.31	6824.62	6936.33
78 Se # 1	24.06	24.06	ug/l	1.77	100.00		5763.92	5730.24	5680.23
88 Sr # 3	78.72	78.72	ug/l	4.92	1800.00		1879031.60	1871696.40	1887616.60
95 Mo # 3	21.66	21.66	ug/l	4.94	1800.00		78606.62	78084.65	79588.06
107 Ag # 3	18.89	18.89	ug/l	5.45	100.00		192446.02	190380.63	192614.52
111 Cd # 3	19.55	19.55	ug/l	5.65	100.00		43170.18	42080.75	43420.32
118 Sn # 3	20.24	20.24	ug/l	5.27	1800.00		140309.80	139415.69	140830.69
121 Sb # 3	20.81	20.81	ug/l	6.10	100.00		173947.19	168895.39	173096.69
137 Ba # 3	22.71	22.71	ug/l	5.50	1800.00		83276.64	82637.36	83116.31
202 Hg # 3	0.9227	0.9227	ug/l	4.32	5.00		2651.90	2658.23	2675.23
205 Tl # 3	3.701	3.701	ug/l	4.95	20.00		87283.07	85691.12	87447.20
208 Pb # 3	18.63	18.63	ug/l	4.67	1800.00		596419.88	593470.19	595728.06
232 Th # 3	22.1	22.1	ug/l	3.81	#VALUE!		675749.56	673420.31	673601.44
238 U # 3	20.72	20.72	ug/l	4.26	#VALUE!		663029.56	654577.81	656554.56

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	393131.38	2.67	442436.88	88.9	60 - 125		380992.44	399086.84	399314.88
45 Sc # 1	394368.41	2.37	456299.72	86.4	60 - 125		385721.78	393088.19	404295.28
45 Sc # 3	705261.88	6.70	765061.25	92.2	60 - 125		655886.75	709918.06	749980.75
74 Ge # 1	136738.50	1.12	153441.28	89.1	60 - 125		134971.03	137686.55	137557.88
74 Ge # 2	42771.82	1.34	47804.94	89.5	60 - 125		42128.51	43232.12	42954.85
74 Ge # 3	209985.09	2.59	224564.78	93.5	60 - 125		203732.36	212570.47	213652.47
89 Y # 3	1230785.30	4.81	1302847.50	94.5	60 - 125		1162575.10	1261764.90	1268015.80
115 In # 3	1228338.00	5.20	1366177.60	89.9	60 - 125		1158474.60	1242976.50	1283562.90
159 Tb # 3	1731756.30	4.41	2052817.90	84.4	60 - 125		1645033.10	1761518.30	1788717.30
209 Bi # 3	1021151.90	3.55	1405468.50	72.7	60 - 125		979910.06	1035352.20	1048193.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\111SMPL.D\111SMPL.D#
 Date Acquired: Aug 26 2014 09:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62412-b-2-e ms
 Misc Info: 200.8TR 1/5
 Vial Number: 2308
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	10	10	ug/l	2.18	100.00		16820.88	17408.09	17087.79
11 B # 3	82.51	82.51	ug/l	1.23	1800.00		112642.95	113830.39	112683.54
23 Na # 1	73600	73600	ug/l	0.21	81000.00		230331380.00	231719620.00	230135460.00
24 Mg # 1	3408	3408	ug/l	0.69	81000.00		7504607.50	7478866.50	7494227.50
27 Al # 1	1051	1051	ug/l	0.98	81000.00		2723739.80	2747431.80	2761421.30
39 K # 2	4337	4337	ug/l	0.16	81000.00		1379440.30	1401003.90	1393438.10
40 Ca # 1	18100	18100	ug/l	0.79	81000.00		108492980.00	109697440.00	109734200.00
47 Ti # 3	20.75	20.75	ug/l	1.86	1620.00		21032.17	21526.17	21963.35
51 V # 2	20.45	20.45	ug/l	0.62	1800.00		50553.55	50918.92	51032.50
52 Cr # 2	19.44	19.44	ug/l	0.67	1800.00		58276.89	58642.40	58818.61
55 Mn # 3	104.7	104.7	ug/l	0.18	1800.00		1887312.50	1890173.80	1909083.50
56 Fe # 1	1076	1076	ug/l	0.37	81000.00		8506172.00	8502774.00	8439447.00
59 Co # 3	10.11	10.11	ug/l	1.23	1800.00		138903.98	138970.33	137893.50
60 Ni # 2	20.73	20.73	ug/l	1.51	1800.00		22973.20	22907.56	23400.40
63 Cu # 2	19.56	19.56	ug/l	0.54	1800.00		59529.81	60869.63	59739.29
66 Zn # 3	23.28	23.28	ug/l	1.33	1800.00		46983.89	47191.25	46676.18
75 As # 2	21.33	21.33	ug/l	0.92	100.00		6921.32	6931.32	6978.00
78 Se # 1	24.18	24.18	ug/l	1.36	100.00		6000.66	5913.31	5819.94
88 Sr # 3	73.43	73.43	ug/l	0.73	1800.00		1755853.80	1783925.00	1791822.50
95 Mo # 3	21.01	21.01	ug/l	1.19	1800.00		76604.84	78017.91	77940.70
107 Ag # 3	9.529	9.529	ug/l	0.96	100.00		97224.89	98646.23	98998.38
111 Cd # 3	9.41	9.41	ug/l	2.72	100.00		20909.50	21373.08	20578.76
118 Sn # 3	40.04	40.04	ug/l	0.47	1800.00		280029.44	280108.81	282134.16
121 Sb # 3	10.79	10.79	ug/l	0.58	100.00		90767.29	90040.38	90851.12
137 Ba # 3	21.81	21.81	ug/l	0.47	1800.00		80279.70	80668.28	81853.24
202 Hg # 3	0.8683	0.8683	ug/l	1.44	5.00		2526.54	2563.55	2622.90
205 Tl # 3	7.1	7.1	ug/l	0.17	20.00		169027.30	170703.17	171426.64
208 Pb # 3	9.039	9.039	ug/l	0.67	1800.00		295734.31	297843.03	295524.31
232 Th # 3	10.46	10.46	ug/l	0.53	#VALUE!		320159.31	320556.44	325169.44
238 U # 3	10.42	10.42	ug/l	0.72	#VALUE!		334305.69	331658.69	335915.09

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	395316.75	0.64	442436.88	89.3	60 - 125		395544.00	392683.38	397722.94
45 Sc # 1	407443.22	0.56	456299.72	89.3	60 - 125		407006.16	409899.25	405424.22
45 Sc # 3	700907.13	0.32	765061.25	91.6	60 - 125		698791.06	700726.69	703203.63
74 Ge # 1	140479.78	0.48	153441.28	91.6	60 - 125		140460.63	141159.58	139819.14
74 Ge # 2	42742.90	0.91	47804.94	89.4	60 - 125		42341.21	43118.56	42768.92
74 Ge # 3	211086.20	0.81	224564.78	94.0	60 - 125		209916.92	210298.27	213043.41
89 Y # 3	1245625.80	1.00	1302847.50	95.6	60 - 125		1237047.60	1239914.50	1259915.10
115 In # 3	1244506.80	0.86	1366177.60	91.1	60 - 125		1241073.10	1235889.90	1256557.50
159 Tb # 3	1770823.80	0.55	2052817.90	86.3	60 - 125		1760161.60	1772935.00	1779374.80
209 Bi # 3	1029502.90	0.51	1405468.50	73.2	60 - 125		1023904.40	1030351.60	1034252.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\112SMPL.D\112SMPL.D#
 Date Acquired: Aug 26 2014 09:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 660-62412-b-2-f msd
 Misc Info: 200.8TR 1/5
 Vial Number: 2309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.14	10.14	ug/l	1.92	100.00		16880.95	17474.83	17111.06
11 B # 3	85.58	85.58	ug/l	1.16	1800.00		114614.55	115057.13	118085.13
23 Na # 1	75920	75920	ug/l	0.17	81000.00		231776480.00	231051360.00	230714770.00
24 Mg # 1	3527	3527	ug/l	0.50	81000.00		7572487.50	7533953.00	7488078.00
27 Al # 1	1075	1075	ug/l	0.40	81000.00		2732939.50	2728561.80	2712078.80
39 K # 2	4441	4441	ug/l	0.67	81000.00		1409810.10	1418969.40	1414545.00
40 Ca # 1	18590	18590	ug/l	0.02	81000.00		109262420.00	108849360.00	109046370.00
47 Ti # 3	21.05	21.05	ug/l	0.49	1620.00		21516.17	21556.15	21826.57
51 V # 2	20.61	20.61	ug/l	0.42	1800.00		50580.18	50909.90	51068.16
52 Cr # 2	19.61	19.61	ug/l	0.75	1800.00		58559.93	58788.58	58685.88
55 Mn # 3	107.1	107.1	ug/l	0.95	1800.00		1904083.80	1919360.00	1940772.30
56 Fe # 1	1100	1100	ug/l	0.27	81000.00		8420241.00	8434922.00	8420344.00
59 Co # 3	10.35	10.35	ug/l	1.09	1800.00		138883.47	141929.48	140964.92
60 Ni # 2	20.6	20.6	ug/l	0.66	1800.00		22718.42	22861.96	22800.77
63 Cu # 2	19.55	19.55	ug/l	1.60	1800.00		60055.78	59359.19	59324.75
66 Zn # 3	22.6	22.6	ug/l	1.77	1800.00		44547.99	44912.17	46071.67
75 As # 2	21.47	21.47	ug/l	0.48	100.00		6885.64	6927.99	7006.02
78 Se # 1	24.5	24.5	ug/l	1.84	100.00		5933.31	5740.58	5843.95
88 Sr # 3	75.59	75.59	ug/l	1.25	1800.00		1841747.90	1819212.00	1833687.90
95 Mo # 3	21.19	21.19	ug/l	0.54	1800.00		77193.59	78315.43	79132.64
107 Ag # 3	9.728	9.728	ug/l	0.72	100.00		98857.74	100868.76	101374.81
111 Cd # 3	9.754	9.754	ug/l	0.78	100.00		21767.09	21640.03	21773.38
118 Sn # 3	40.72	40.72	ug/l	0.25	1800.00		283701.63	284710.16	288422.84
121 Sb # 3	10.99	10.99	ug/l	0.59	100.00		91980.52	91611.84	93283.95
137 Ba # 3	22.17	22.17	ug/l	0.38	1800.00		81448.16	82576.88	82808.31
202 Hg # 3	0.8991	0.8991	ug/l	0.75	5.00		2656.56	2643.56	2677.90
205 Tl # 3	7.24	7.24	ug/l	0.07	20.00		172260.34	173505.70	175669.38
208 Pb # 3	9.214	9.214	ug/l	0.23	1800.00		299008.88	302760.06	304916.25
232 Th # 3	10.88	10.88	ug/l	0.80	#VALUE!		331751.66	331599.53	337734.13
238 U # 3	10.69	10.69	ug/l	0.77	#VALUE!		338413.91	341519.28	344685.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391056.69	0.50	442436.88	88.4	60 - 125		390087.44	389771.28	393311.28
45 Sc # 1	395773.69	0.17	456299.72	86.7	60 - 125		396469.88	395093.94	395757.25
45 Sc # 3	695204.25	1.24	765061.25	90.9	60 - 125		690456.88	689968.31	705187.56
74 Ge # 1	137018.66	0.19	153441.28	89.3	60 - 125		136836.94	137318.47	136900.58
74 Ge # 2	42440.70	0.89	47804.94	88.8	60 - 125		42008.24	42601.86	42712.00
74 Ge # 3	209149.38	0.02	224564.78	93.1	60 - 125		209107.08	209176.02	209165.03
89 Y # 3	1247077.40	0.73	1302847.50	95.7	60 - 125		1236668.80	1251258.30	1253305.00
115 In # 3	1244752.30	0.73	1366177.60	91.1	60 - 125		1236031.90	1244064.30	1254160.60
159 Tb # 3	1771638.90	0.97	2052817.90	86.3	60 - 125		1755258.30	1769988.50	1789670.00
209 Bi # 3	1025803.80	0.27	1405468.50	73.0	60 - 125		1025197.10	1023396.30	1028818.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\113_QCS.D\113_QCS.D#
 Date Acquired: Aug 26 2014 09:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	3.25	0.10 69.5 - 130	
11 B	21.28 ug/l	1.43	20.00 69.5 - 130	
23 Na	50.54 ug/l	1.73	50.00 69.5 - 130	
24 Mg	55.93 ug/l	0.68	50.00 69.5 - 130	
27 Al	11.10 ug/l	2.03	10.00 69.5 - 130	
39 K	42.05 ug/l	14.33	50.00 69.5 - 130	
40 Ca	58.33 ug/l	0.80	50.00 69.5 - 130	
47 Ti	0.98 ug/l	6.35	1.00 69.5 - 130	
51 V	1.01 ug/l	10.02	1.00 69.5 - 130	
52 Cr	1.03 ug/l	8.41	1.00 69.5 - 130	
55 Mn	0.99 ug/l	1.24	1.00 69.5 - 130	
56 Fe	23.56 ug/l	0.89	20.00 69.5 - 130	
59 Co	0.10 ug/l	6.83	0.10 69.5 - 130	
60 Ni	1.04 ug/l	10.37	1.00 69.5 - 130	
63 Cu	0.91 ug/l	8.45	1.00 69.5 - 130	
66 Zn	3.57 ug/l	3.09	4.00 69.5 - 130	
75 As	0.55 ug/l	10.09	0.50 69.5 - 130	
78 Se	0.45 ug/l	2.20	0.50 69.5 - 130	
88 Sr	0.20 ug/l	1.42	0.20 69.5 - 130	
95 Mo	0.96 ug/l	0.36	1.00 69.5 - 130	
107 Ag	0.19 ug/l	1.49	0.20 69.5 - 130	
111 Cd	0.10 ug/l	3.65	0.10 69.5 - 130	
118 Sn	0.97 ug/l	3.37	1.00 69.5 - 130	
121 Sb	0.97 ug/l	1.69	1.00 69.5 - 130	
137 Ba	0.93 ug/l	2.91	1.00 69.5 - 130	
202 Hg	0.14 ug/l	6.88	0.16 69.5 - 130	
205 Tl	0.19 ug/l	4.03	0.20 69.5 - 130	
208 Pb	0.25 ug/l	1.04	0.30 69.5 - 130	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	394724.94	0.42	442436.88	89.2	60 - 125	
45 Sc	382069.47	0.49	456299.72	83.7	60 - 125	
45 Sc	681166.06	0.55	765061.25	89.0	60 - 125	
74 Ge	135482.30	0.49	153441.28	88.3	60 - 125	
74 Ge	40061.89	7.74	47804.94	83.8	60 - 125	
74 Ge	209164.84	0.20	224564.78	93.1	60 - 125	
89 Y	1239761.40	0.12	1302847.50	95.2	60 - 125	
115 In	1286091.80	0.63	1366177.60	94.1	60 - 125	
159 Tb	1776456.00	1.20	2052817.90	86.5	60 - 125	
209 Bi	1134379.10	2.86	1405468.50	80.7	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\114_CCV.D\114_CCV.D#
 Date Acquired: Aug 26 2014 09:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	49.32 ug/l	0.79	50.00	89.5 - 110		81502.38	83373.49	81977.54
11 B	95.61 ug/l	1.96	100.00	89.5 - 110		125808.38	125939.55	130657.16
23 Na	5205 ug/l	1.12	5000.00	89.5 - 110		15580196.00	15641803.00	15693196.00
24 Mg	5143 ug/l	0.77	5000.00	89.5 - 110		10780856.00	10780312.00	10783418.00
27 Al	532.3 ug/l	1.25	500.00	89.5 - 110		1318160.10	1332011.00	1327508.40
39 K	5055 ug/l	0.88	5000.00	89.5 - 110		1585009.50	1613358.50	1582028.90
40 Ca	5326 ug/l	1.09	5000.00	89.5 - 110		30626506.00	30612606.00	30844376.00
47 Ti	51.97 ug/l	1.83	50.00	89.5 - 110		52627.56	52450.46	51618.16
51 V	49.33 ug/l	0.36	50.00	89.5 - 110		120105.43	120264.99	120564.89
52 Cr	48.38 ug/l	0.13	50.00	89.5 - 110		143050.48	143476.56	142500.55
55 Mn	502.5 ug/l	0.79	500.00	89.5 - 110		8937541.00	8977488.00	8963113.00
56 Fe	5456 ug/l	0.55	5000.00	89.5 - 110		41110408.00	41044424.00	40898864.00
59 Co	49.5 ug/l	0.54	50.00	89.5 - 110		668329.06	669571.69	666849.56
60 Ni	50.13 ug/l	0.83	50.00	89.5 - 110		54361.59	55166.09	55132.67
63 Cu	48.85 ug/l	0.47	50.00	89.5 - 110		146893.83	146607.98	147344.75
66 Zn	47.83 ug/l	1.37	50.00	89.5 - 110		93537.11	95064.96	94665.96
75 As	51.07 ug/l	0.44	50.00	89.5 - 110		16327.61	16312.27	16382.99
78 Se	49.78 ug/l	0.30	50.00	89.5 - 110		11867.89	11877.21	11815.51
88 Sr	48.82 ug/l	1.03	50.00	89.5 - 110		1174864.50	1176236.80	1166373.00
95 Mo	50.57 ug/l	0.27	50.00	89.5 - 110		186627.44	186476.95	188021.80
107 Ag	48.8 ug/l	0.80	50.00	89.5 - 110		507013.94	502404.38	503750.00
111 Cd	48.49 ug/l	0.77	50.00	89.5 - 110		107186.98	108320.20	109403.30
118 Sn	48.78 ug/l	0.69	50.00	89.5 - 110		341037.72	343583.59	344117.66
121 Sb	48.13 ug/l	0.85	50.00	89.5 - 110		402687.09	406530.94	405742.97
137 Ba	48.81 ug/l	0.96	50.00	89.5 - 110		181286.58	182326.27	181296.78
202 Hg	2.496 ug/l	0.35	2.50	89.5 - 110		7143.61	7184.96	7246.32
205 Tl	9.323 ug/l	0.94	10.00	89.5 - 110		224795.41	222554.03	224657.63
208 Pb	46.62 ug/l	0.07	50.00	89.5 - 110		1516707.50	1528150.10	1532545.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	385674.91	0.80	442436.88	87.2	60 - 125		382108.84	387682.69	387233.16
45 Sc	388614.59	0.77	456299.72	85.2	60 - 125		391952.44	387653.34	386238.03
45 Sc	681886.38	0.81	765061.25	89.1	60 - 125		676967.50	680797.94	687893.75
74 Ge	137080.66	0.38	153441.28	89.3	60 - 125		137650.94	136944.69	136646.39
74 Ge	42053.54	0.22	47804.94	88.0	60 - 125		42040.58	42151.92	41968.14
74 Ge	208035.34	0.62	224564.78	92.6	60 - 125		209357.67	207960.00	206788.38
89 Y	1235971.80	0.88	1302847.50	94.9	60 - 125		1224059.60	1245357.50	1238498.10
115 In	1248247.60	0.69	1366177.60	91.4	60 - 125		1246158.80	1240830.50	1257753.50
159 Tb	1773588.80	0.55	2052817.90	86.4	60 - 125		1762361.30	1777714.50	1780690.40
209 Bi	1093383.90	2.58	1405468.50	77.8	60 - 125		1071587.10	1083277.80	1125286.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\115_CCB.D\115_CCB.D#
 Date Acquired: Aug 26 2014 09:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.009269	0.009269	ug/l	21.19	#VALUE!		13.33	20.00	16.67
11 B #3	2.93	2.93	ug/l	4.13	#VALUE!		6201.15	5891.02	6054.44
23 Na #1	-7.709	-7.709	ug/l	16.90	#VALUE!		61117.25	61819.22	63009.78
24 Mg #1	0.1176	0.1176	ug/l	39.76	#VALUE!		1256.74	1206.74	1226.74
27 Al #1	0.00617	0.00617	ug/l	930.63	#VALUE!		1423.43	1570.11	1483.43
39 K #2	-11.69	-11.69	ug/l	5.83	#VALUE!		8515.48	8152.00	8071.94
40 Ca #1	0.7085	0.7085	ug/l	51.42	#VALUE!		27547.32	27370.29	27410.30
47 Ti #3	-0.06722	-0.06722	ug/l	11.30	#VALUE!		36.67	23.33	36.67
51 V #2	-0.009518	-0.009518	ug/l	82.24	#VALUE!		174.45	184.45	211.11
52 Cr #2	-0.0131	-0.0131	ug/l	43.52	#VALUE!		281.12	264.45	246.67
55 Mn #3	0.0239	0.0239	ug/l	26.96	#VALUE!		1890.15	1673.45	1823.47
56 Fe #1	0.915	0.915	ug/l	6.46	#VALUE!		10820.07	10943.53	11644.06
59 Co #3	0.001559	0.001559	ug/l	50.22	#VALUE!		96.67	76.67	83.34
60 Ni #2	-0.01824	-0.01824	ug/l	33.33	#VALUE!		25.56	20.00	33.33
63 Cu #2	-0.09068	-0.09068	ug/l	0.70	#VALUE!		128.89	125.56	130.00
66 Zn #3	-0.1238	-0.1238	ug/l	18.30	#VALUE!		350.01	393.35	306.68
75 As #2	0.001017	0.001017	ug/l	1609.60	#VALUE!		20.00	10.00	12.00
78 Se #1	-0.03233	-0.03233	ug/l	14.29	#VALUE!		12.00	10.67	11.00
88 Sr #3	0.001469	0.001469	ug/l	93.87	#VALUE!		203.34	150.01	210.01
95 Mo #3	0.02419	0.02419	ug/l	16.40	#VALUE!		186.67	196.67	220.01
107 Ag #3	-0.001941	-0.001941	ug/l	26.83	#VALUE!		100.00	90.00	100.00
111 Cd #3	0.000697	0.000697	ug/l	124.35	#VALUE!		6.63	9.96	6.62
118 Sn #3	0.02023	0.02023	ug/l	56.75	#VALUE!		770.05	910.05	780.04
121 Sb #3	0.02378	0.02378	ug/l	23.18	#VALUE!		293.35	210.01	220.01
137 Ba #3	0.006195	0.006195	ug/l	88.77	#VALUE!		83.34	50.00	46.67
202 Hg #3	0.02086	0.02086	ug/l	22.47	#VALUE!		185.00	159.00	173.00
205 Tl #3	-0.0006907	-0.0006907	ug/l	62.82	#VALUE!		170.01	150.01	163.34
208 Pb #3	0.01242	0.01242	ug/l	488.73	#VALUE!		513.36	4010.12	566.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	391233.88	0.25	442436.88	88.4	60 - 125		390351.78	391048.91	392300.94
45 Sc #1	404522.22	8.20	456299.72	88.7	60 - 125		386342.44	384415.66	442808.53
45 Sc #3	673614.81	0.71	765061.25	88.0	60 - 125		678323.69	668742.88	673778.00
74 Ge #1	141779.17	6.55	153441.28	92.4	60 - 125		136360.52	136469.61	152507.39
74 Ge #2	42026.75	0.44	47804.94	87.9	60 - 125		42195.36	41828.82	42056.07
74 Ge #3	207274.61	0.56	224564.78	92.3	60 - 125		206124.91	207240.91	208458.00
89 Y #3	1241371.90	0.22	1302847.50	95.3	60 - 125		1239979.60	1244511.50	1239624.30
115 In #3	1267229.60	1.09	1366177.60	92.8	60 - 125		1257733.40	1260836.90	1283118.40
159 Tb #3	1787517.30	0.28	2052817.90	87.1	60 - 125		1781753.30	1789794.50	1791004.10
209 Bi #3	1161092.40	1.69	1405468.50	82.6	60 - 125		1138951.90	1176258.10	1168067.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\116ICSA.D\116ICSA.D#
 Date Acquired: Aug 26 2014 10:03 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.01289 ug/l	41.15	---	
11 B	2.424 ug/l	6.23	---	
23 Na	98700 ug/l	0.71	1.20	
24 Mg	96050 ug/l	0.96	1.20	
27 Al	97470 ug/l	0.94	1.20	
39 K	100700 ug/l	0.62	1.20	
40 Ca	103900 ug/l	0.91	1.20	
47 Ti	2019 ug/l	0.27	1.20	
51 V	0.02487 ug/l	12.55	---	
52 Cr	1.276 ug/l	1.24	---	
55 Mn	0.6678 ug/l	3.21	---	
56 Fe	99180 ug/l	0.50	1.20	
59 Co	0.1125 ug/l	4.13	---	
60 Ni	0.1549 ug/l	4.70	---	
63 Cu	0.496 ug/l	3.09	---	
66 Zn	2.052 ug/l	4.71	---	
75 As	0.104 ug/l	5.67	---	
78 Se	-0.004764 ug/l	379.30	---	
88 Sr	0.5985 ug/l	1.81	---	
95 Mo	2111 ug/l	0.30	1.20	
107 Ag	0.01351 ug/l	3.29	---	
111 Cd	0.3153 ug/l	7.62	---	
118 Sn	0.02235 ug/l	21.93	---	
121 Sb	0.0385 ug/l	1.98	---	
137 Ba	0.1028 ug/l	4.09	---	
202 Hg	0.01189 ug/l	39.18	---	
205 Tl	-0.001718 ug/l	71.94	---	
208 Pb	0.1381 ug/l	2.66	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	402034.81	1.46		442436.88	90.9	60 - 125	
45 Sc	411099.03	0.28		456299.72	90.1	60 - 125	
45 Sc	759286.13	1.11		765061.25	99.2	60 - 125	
74 Ge	133627.33	0.32		153441.28	87.1	60 - 125	
74 Ge	41523.04	1.06		47804.94	86.9	60 - 125	
74 Ge	210100.95	0.64		224564.78	93.6	60 - 125	
89 Y	1301120.10	0.33		1302847.50	99.9	60 - 125	
115 In	1235303.40	0.60		1366177.60	90.4	60 - 125	
159 Tb	1766473.50	1.34		2052817.90	86.1	60 - 125	
209 Bi	955145.31	0.78		1405468.50	68.0	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\117ICSB.D\117ICSB.D#
 Date Acquired: Aug 26 2014 10:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.01 ug/l	37.89	--- ##### - #####	
11 B	1.90 ug/l	4.73	--- ##### - #####	
23 Na	98370.00 ug/l	0.07	100000.00 80 - 120	
24 Mg	96130.00 ug/l	0.35	100000.00 80 - 120	
27 Al	97460.00 ug/l	0.58	100000.00 80 - 120	
39 K	100900.00 ug/l	0.24	100000.00 80 - 120	
40 Ca	104200.00 ug/l	0.45	100000.00 80 - 120	
47 Ti	1976.00 ug/l	0.21	2000.00 80 - 120	
51 V	0.02 ug/l	49.12	--- ##### - #####	
52 Cr	21.33 ug/l	0.45	20.00 80 - 120	
55 Mn	21.21 ug/l	0.21	20.00 80 - 120	
56 Fe	99240.00 ug/l	0.82	100000.00 80 - 120	
59 Co	20.63 ug/l	0.39	20.00 80 - 120	
60 Ni	19.91 ug/l	1.18	20.00 80 - 120	
63 Cu	18.61 ug/l	0.95	20.00 80 - 120	
66 Zn	19.71 ug/l	1.68	20.00 80 - 120	
75 As	21.24 ug/l	0.64	20.00 80 - 120	
78 Se	-0.01 ug/l	111.71	--- ##### - #####	
88 Sr	0.59 ug/l	0.78	--- ##### - #####	
95 Mo	2086.00 ug/l	0.64	2000.00 80 - 120	
107 Ag	17.58 ug/l	0.94	20.00 80 - 120	
111 Cd	18.08 ug/l	1.63	20.00 80 - 120	
118 Sn	0.02 ug/l	26.82	--- ##### - #####	
121 Sb	0.04 ug/l	10.26	--- ##### - #####	
137 Ba	0.09 ug/l	9.59	--- ##### - #####	
202 Hg	0.01 ug/l	31.18	--- ##### - #####	
205 Tl	0.00 ug/l	25.21	--- ##### - #####	
208 Pb	0.13 ug/l	2.66	--- ##### - #####	

ISTD Elements

Element	CPS	Mean RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	398561.50	0.83	442436.88	90.1	60 - 125	
45 Sc	411707.97	0.98	456299.72	90.2	60 - 125	
45 Sc	760564.75	1.55	765061.25	99.4	60 - 125	
74 Ge	133989.94	0.54	153441.28	87.3	60 - 125	
74 Ge	41655.56	0.24	47804.94	87.1	60 - 125	
74 Ge	207474.48	0.80	224564.78	92.4	60 - 125	
89 Y	1266244.50	0.46	1302847.50	97.2	60 - 125	
115 In	1226802.00	1.17	1366177.60	89.8	60 - 125	
159 Tb	1743606.80	1.11	2052817.90	84.9	60 - 125	
209 Bi	951340.00	1.03	1405468.50	67.7	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\118SMPL.D\118SMPL.D#
 Date Acquired: Aug 26 2014 10:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.007729	0.007729	ug/l	38.74	100.00		20.00	13.33	10.00
11 B # 3	1.223	1.223	ug/l	1.64	1800.00		3827.13	3937.17	3903.83
23 Na # 1	5.349	5.349	ug/l	3.98	81000.00		104444.95	103539.42	102718.95
24 Mg # 1	7.217	7.217	ug/l	2.65	81000.00		16440.71	16894.58	17204.71
27 Al # 1	8.394	8.394	ug/l	1.42	81000.00		23778.55	23254.64	23141.08
39 K # 2	-4.565	-4.565	ug/l	4.19	81000.00		10950.14	11013.47	10996.84
40 Ca # 1	10.41	10.41	ug/l	1.55	81000.00		87009.88	85409.13	86661.43
47 Ti # 3	0.263	0.263	ug/l	7.96	1620.00		420.02	386.68	366.68
51 V # 2	0.009767	0.009767	ug/l	98.63	1800.00		275.56	225.56	244.45
52 Cr # 2	-0.003358	-0.003358	ug/l	294.43	1800.00		296.67	341.12	283.34
55 Mn # 3	0.5305	0.5305	ug/l	0.89	1800.00		11463.87	11650.65	11417.13
56 Fe # 1	21.36	21.36	ug/l	0.76	81000.00		172674.39	171401.69	173027.34
59 Co # 3	0.01099	0.01099	ug/l	18.08	1800.00		216.67	260.01	203.34
60 Ni # 2	-0.003518	-0.003518	ug/l	57.68	1800.00		42.22	44.44	46.67
63 Cu # 2	-0.08324	-0.08324	ug/l	0.57	1800.00		160.00	156.67	156.67
66 Zn # 3	-0.07999	-0.07999	ug/l	34.22	1800.00		526.69	433.35	433.35
75 As # 2	0.01824	0.01824	ug/l	62.77	100.00		24.67	19.67	17.00
78 Se # 1	-0.05128	-0.05128	ug/l	2.78	100.00		6.33	6.67	7.00
88 Sr # 3	0.03322	0.03322	ug/l	6.00	1800.00		1016.73	940.05	1040.06
95 Mo # 3	0.6974	0.6974	ug/l	9.48	1800.00		3167.05	2693.62	2806.98
107 Ag # 3	0.00424	0.00424	ug/l	31.39	100.00		186.67	160.01	166.67
111 Cd # 3	0.004878	0.004878	ug/l	32.53	100.00		15.97	16.07	22.72
118 Sn # 3	-0.01706	-0.01706	ug/l	49.26	1800.00		566.69	536.69	660.03
121 Sb # 3	0.01089	0.01089	ug/l	34.69	100.00		176.67	113.34	126.67
137 Ba # 3	0.05523	0.05523	ug/l	10.15	1800.00		246.68	246.68	286.68
202 Hg # 3	-0.006549	-0.006549	ug/l	51.40	5.00		105.67	87.00	101.00
205 Tl # 3	-0.001043	-0.001043	ug/l	54.69	20.00		173.34	146.67	156.67
208 Pb # 3	0.001229	0.001229	ug/l	160.78	1800.00		1446.74	1360.07	1336.73
232 Th # 3	0.02418	0.02418	ug/l	5.18	#VALUE!		1123.41	1080.07	1180.08
238 U # 3	0.006753	0.006753	ug/l	17.83	#VALUE!		243.34	330.02	270.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	402641.47	0.78	442436.88	91.0	60 - 125		399048.59	404775.81	404100.00
45 Sc # 1	407405.75	0.28	456299.72	89.3	60 - 125		407888.94	408241.03	406087.28
45 Sc # 3	732544.69	1.47	765061.25	95.7	60 - 125		744485.75	723507.44	729640.75
74 Ge # 1	143174.13	0.34	153441.28	93.3	60 - 125		143526.13	143368.59	142627.66
74 Ge # 2	44073.83	0.28	47804.94	92.2	60 - 125		44214.56	44001.81	44005.11
74 Ge # 3	221030.64	0.70	224564.78	98.4	60 - 125		219411.66	222474.16	221206.09
89 Y # 3	1300256.90	0.29	1302847.50	99.8	60 - 125		1298149.50	1297955.60	1304665.80
115 In # 3	1342937.10	0.52	1366177.60	98.3	60 - 125		1334814.80	1347194.50	1346802.50
159 Tb # 3	1861913.80	0.71	2052817.90	90.7	60 - 125		1847693.30	1864357.90	1873689.80
209 Bi # 3	1209802.40	0.43	1405468.50	86.1	60 - 125		1210060.30	1204468.10	1214878.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\119SMPL.D\119SMPL.D#
 Date Acquired: Aug 26 2014 10:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.01059	0.01059	ug/l	46.60	100.00		23.33	26.67	10.00
11 B # 3	1.058	1.058	ug/l	9.30	1800.00		3820.49	3620.42	3870.49
23 Na # 1	2.928	2.928	ug/l	5.00	81000.00		99338.48	99163.46	99307.46
24 Mg # 1	6.91	6.91	ug/l	2.10	81000.00		16751.04	16427.40	17004.53
27 Al # 1	8.131	8.131	ug/l	1.39	81000.00		23958.79	23274.65	23221.23
39 K # 2	-7.611	-7.611	ug/l	1.65	81000.00		10329.75	10373.12	10152.97
40 Ca # 1	9.901	9.901	ug/l	0.67	81000.00		86517.17	86513.81	85328.62
47 Ti # 3	0.1196	0.1196	ug/l	19.74	1620.00		213.34	253.34	260.01
51 V # 2	0.003318	0.003318	ug/l	130.59	1800.00		226.67	245.56	244.45
52 Cr # 2	-0.001806	-0.001806	ug/l	107.31	1800.00		326.67	315.56	321.12
55 Mn # 3	0.5344	0.5344	ug/l	1.67	1800.00		11897.42	11760.72	11650.61
56 Fe # 1	19	19	ug/l	0.48	81000.00		160687.73	158775.67	157682.89
59 Co # 3	0.01014	0.01014	ug/l	19.63	1800.00		183.34	233.34	236.68
60 Ni # 2	-0.008443	-0.008443	ug/l	118.30	1800.00		36.67	53.33	30.00
63 Cu # 2	-0.08146	-0.08146	ug/l	7.15	1800.00		150.00	168.89	185.56
66 Zn # 3	-0.09836	-0.09836	ug/l	29.66	1800.00		370.01	496.69	433.35
75 As # 2	0.004279	0.004279	ug/l	93.81	100.00		15.33	15.67	17.67
78 Se # 1	-0.04198	-0.04198	ug/l	35.99	100.00		13.67	7.33	6.67
88 Sr # 3	0.0358	0.0358	ug/l	6.10	1800.00		1056.73	1136.74	1053.40
95 Mo # 3	0.2743	0.2743	ug/l	5.57	1800.00		1146.74	1226.75	1293.42
107 Ag # 3	0.002279	0.002279	ug/l	53.49	100.00		146.67	140.00	166.67
111 Cd # 3	0.01133	0.01133	ug/l	12.41	100.00		29.75	36.40	36.38
118 Sn # 3	-0.02283	-0.02283	ug/l	42.64	1800.00		483.35	640.03	530.03
121 Sb # 3	0.00718	0.00718	ug/l	3.69	100.00		103.34	106.67	110.00
137 Ba # 3	0.04353	0.04353	ug/l	5.50	1800.00		223.34	213.34	210.01
202 Hg # 3	-0.003379	-0.003379	ug/l	93.99	5.00		100.00	108.33	120.34
205 Tl # 3	-0.001126	-0.001126	ug/l	64.94	20.00		156.67	180.01	143.34
208 Pb # 3	-0.0008147	-0.0008147	ug/l	209.16	1800.00		1373.40	1270.06	1370.07
232 Th # 3	0.01963	0.01963	ug/l	10.92	#VALUE!		870.05	1043.40	1026.74
238 U # 3	0.00719	0.00719	ug/l	11.03	#VALUE!		330.01	283.35	293.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	414469.19	0.61	442436.88	93.7	60 - 125		411586.41	415586.91	416234.25
45 Sc # 1	421381.22	0.49	456299.72	92.3	60 - 125		423546.09	421182.78	419414.84
45 Sc # 3	750958.19	1.54	765061.25	98.2	60 - 125		750863.63	762532.69	739478.31
74 Ge # 1	147070.20	0.23	153441.28	95.8	60 - 125		147188.75	147329.72	146692.17
74 Ge # 2	45384.07	0.74	47804.94	94.9	60 - 125		45552.27	45600.16	44999.77
74 Ge # 3	224551.38	0.44	224564.78	100.0	60 - 125		223418.44	225123.22	225112.50
89 Y # 3	1323131.10	0.97	1302847.50	101.6	60 - 125		1320703.80	1311667.10	1337022.80
115 In # 3	1358725.30	1.32	1366177.60	99.5	60 - 125		1338297.90	1372050.60	1365827.30
159 Tb # 3	1899594.80	0.52	2052817.90	92.5	60 - 125		1889413.30	1900063.80	1909307.50
209 Bi # 3	1229781.50	2.01	1405468.50	87.5	60 - 125		1202603.50	1235712.00	1251029.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\120SMPL.D\120SMPL.D#
 Date Acquired: Aug 26 2014 10:33 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tuna Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003674	0.003674	ug/l	28.61	100.00		10.00	6.67	6.67
11 B # 3	0.9475	0.9475	ug/l	5.68	1800.00		3600.44	3697.11	3767.13
23 Na # 1	-2.718	-2.718	ug/l	7.38	81000.00		83031.60	83179.06	84103.45
24 Mg # 1	3.081	3.081	ug/l	3.95	81000.00		8535.49	8211.99	8055.23
27 Al # 1	3.415	3.415	ug/l	1.31	81000.00		10876.68	11200.20	11190.25
39 K # 2	-8.769	-8.769	ug/l	6.54	81000.00		10123.02	10253.05	9872.82
40 Ca # 1	4.305	4.305	ug/l	0.33	81000.00		52409.91	52924.64	52851.00
47 Ti # 3	0.01623	0.01623	ug/l	67.28	1620.00		120.00	130.00	146.67
51 V # 2	0.001058	0.001058	ug/l	440.17	1800.00		251.12	231.12	230.00
52 Cr # 2	-0.01466	-0.01466	ug/l	37.31	1800.00		283.34	304.45	268.89
55 Mn # 3	0.1889	0.1889	ug/l	5.96	1800.00		5120.84	5440.94	4980.82
56 Fe # 1	7.543	7.543	ug/l	1.00	81000.00		67800.63	67362.66	67790.68
59 Co # 3	0.004084	0.004084	ug/l	44.22	1800.00		143.34	150.01	100.00
60 Ni # 2	-0.01088	-0.01088	ug/l	66.59	1800.00		42.22	27.78	43.33
63 Cu # 2	-0.09211	-0.09211	ug/l	1.22	1800.00		137.78	132.22	138.89
66 Zn # 3	-0.1022	-0.1022	ug/l	12.41	1800.00		400.02	443.35	446.68
75 As # 2	-0.005477	-0.005477	ug/l	93.94	100.00		11.33	15.00	13.00
78 Se # 1	-0.05392	-0.05392	ug/l	14.53	100.00		4.67	8.67	5.67
88 Sr # 3	0.0152	0.0152	ug/l	13.70	1800.00		496.69	586.69	600.03
95 Mo # 3	0.1115	0.1115	ug/l	11.36	1800.00		616.70	580.03	520.02
107 Ag # 3	-0.003136	-0.003136	ug/l	18.37	100.00		83.34	96.67	93.34
111 Cd # 3	0.002653	0.002653	ug/l	153.15	100.00		3.20	23.21	13.22
118 Sn # 3	-0.02863	-0.02863	ug/l	29.89	1800.00		563.36	530.02	440.02
121 Sb # 3	0.002738	0.002738	ug/l	68.77	100.00		60.00	53.33	86.67
137 Ba # 3	0.01853	0.01853	ug/l	16.51	1800.00		110.00	130.00	106.67
202 Hg # 3	-0.006635	-0.006635	ug/l	66.99	5.00		114.67	94.00	91.00
205 Tl # 3	-0.00455	-0.00455	ug/l	1.43	20.00		70.00	73.34	73.34
208 Pb # 3	-0.01298	-0.01298	ug/l	3.82	1800.00		923.37	890.04	930.04
232 Th # 3	0.01122	0.01122	ug/l	2.90	#VALUE!		676.70	676.71	663.37
238 U # 3	0.00232	0.00232	ug/l	15.81	#VALUE!		100.00	130.00	120.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	422845.38	0.85	442436.88	95.6	60 - 125		423015.31	419167.69	426353.16
45 Sc # 1	434230.28	0.61	456299.72	95.2	60 - 125		431423.03	436675.75	434592.09
45 Sc # 3	774817.13	1.11	765061.25	101.3	60 - 125		774003.00	766616.56	783831.88
74 Ge # 1	150698.70	0.61	153441.28	98.2	60 - 125		149658.48	151430.45	151007.17
74 Ge # 2	46250.63	0.24	47804.94	96.7	60 - 125		46121.42	46323.03	46307.43
74 Ge # 3	227189.53	0.46	224564.78	101.2	60 - 125		227791.72	227791.30	225985.55
89 Y # 3	1341793.60	0.75	1302847.50	103.0	60 - 125		1337109.40	1334882.40	1353389.10
115 In # 3	1372240.90	0.51	1366177.60	100.4	60 - 125		1364325.90	1374614.00	1377783.10
159 Tb # 3	1905711.90	1.02	2052817.90	92.8	60 - 125		1894207.00	1894804.50	1928124.10
209 Bi # 3	1234058.50	1.07	1405468.50	87.8	60 - 125		1219215.00	1244513.40	1238447.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\121_CCV.D\121_CCV.D#
 Date Acquired: Aug 26 2014 10:40 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.8 ug/l	0.96	50.00	89.5 - 110		90547.94	90183.13	89208.97
11 B	95.93 ug/l	1.39	100.00	89.5 - 110		142180.14	140293.88	141525.47
23 Na	5236 ug/l	1.12	5000.00	89.5 - 110		17973544.00	18054914.00	18196368.00
24 Mg	5196 ug/l	0.64	5000.00	89.5 - 110		12476503.00	12551268.00	12516019.00
27 Al	532 ug/l	1.18	500.00	89.5 - 110		1508718.50	1539992.10	1518666.00
39 K	5114 ug/l	0.92	5000.00	89.5 - 110		1772495.80	1783347.50	1792837.60
40 Ca	5323 ug/l	0.25	5000.00	89.5 - 110		35291776.00	35373700.00	35077228.00
47 Ti	48.79 ug/l	1.45	50.00	89.5 - 110		58812.41	58234.09	58327.64
51 V	50.24 ug/l	0.55	50.00	89.5 - 110		136375.25	134602.53	135623.03
52 Cr	49.46 ug/l	0.09	50.00	89.5 - 110		162144.30	161656.58	161320.05
55 Mn	509.2 ug/l	0.90	500.00	89.5 - 110		10072943.00	10020639.00	10084425.00
56 Fe	5392 ug/l	0.81	5000.00	89.5 - 110		46357928.00	46665084.00	46672324.00
59 Co	49.42 ug/l	0.44	50.00	89.5 - 110		741401.69	739339.56	737137.19
60 Ni	50.63 ug/l	0.89	50.00	89.5 - 110		61159.12	61900.47	60877.20
63 Cu	49.19 ug/l	0.82	50.00	89.5 - 110		162714.97	164062.23	164114.78
66 Zn	48.62 ug/l	1.28	50.00	89.5 - 110		106701.95	105424.50	106883.17
75 As	50.7 ug/l	1.00	50.00	89.5 - 110		17828.69	17930.79	18063.58
78 Se	50.77 ug/l	0.39	50.00	89.5 - 110		13423.28	13401.60	13426.28
88 Sr	48.93 ug/l	2.10	50.00	89.5 - 110		1296089.80	1299258.80	1288002.10
95 Mo	49.77 ug/l	1.16	50.00	89.5 - 110		204831.48	204553.61	202778.34
107 Ag	47.98 ug/l	1.49	50.00	89.5 - 110		552443.25	548148.81	549064.38
111 Cd	47.92 ug/l	1.80	50.00	89.5 - 110		119585.40	117904.01	118418.45
118 Sn	48.22 ug/l	1.20	50.00	89.5 - 110		377685.81	377219.41	372709.53
121 Sb	47.38 ug/l	1.50	50.00	89.5 - 110		445078.16	441426.50	439587.69
137 Ba	47.75 ug/l	1.20	50.00	89.5 - 110		197887.34	197511.61	195626.92
202 Hg	2.474 ug/l	1.86	2.50	89.5 - 110		7771.58	7677.86	7785.26
205 Tl	9.161 ug/l	1.43	10.00	89.5 - 110		239804.39	238482.98	239151.48
208 Pb	45.92 ug/l	1.15	50.00	89.5 - 110		1635702.60	1637183.80	1625723.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	426254.44	0.70	442436.88	96.3	60 - 125		424218.06	429701.44	424843.78
45 Sc	446428.56	0.49	456299.72	97.8	60 - 125		448204.28	447070.59	444010.75
45 Sc	812660.50	0.96	765061.25	106.2	60 - 125		804296.31	814022.25	819663.00
74 Ge	152135.56	0.30	153441.28	99.1	60 - 125		152172.19	152568.83	151665.69
74 Ge	46510.95	0.34	47804.94	97.3	60 - 125		46681.84	46485.66	46365.34
74 Ge	230489.08	0.61	224564.78	102.6	60 - 125		230924.23	231614.55	228928.44
89 Y	1361939.30	2.23	1302847.50	104.5	60 - 125		1333667.90	1393963.00	1358186.90
115 In	1383979.60	1.15	1366177.60	101.3	60 - 125		1372101.00	1402091.40	1377746.50
159 Tb	1927066.30	1.16	2052817.90	93.9	60 - 125		1905843.80	1950320.60	1925034.80
209 Bi	1226434.00	1.59	1405468.50	87.3	60 - 125		1207687.50	1246574.30	1225040.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\122_CCB.D\122_CCB.D#
 Date Acquired: Aug 26 2014 10:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001277	0.001277	ug/l	1.50	#VALUE!		3.33	3.33	3.33
11 B # 3	1.957	1.957	ug/l	5.96	#VALUE!		5187.48	5007.44	4947.41
23 Na # 1	-7.413	-7.413	ug/l	2.69	#VALUE!		67347.63	66598.70	67712.55
24 Mg # 1	0.4138	0.4138	ug/l	9.13	#VALUE!		2083.50	1986.82	1940.15
27 Al # 1	0.1994	0.1994	ug/l	21.42	#VALUE!		2203.52	2173.52	2010.16
39 K # 2	-10.06	-10.06	ug/l	4.14	#VALUE!		9492.65	9696.15	9369.20
40 Ca # 1	0.939	0.939	ug/l	1.54	#VALUE!		30598.79	30932.56	30935.86
47 Ti # 3	-0.05334	-0.05334	ug/l	20.19	#VALUE!		66.67	46.67	43.33
51 V # 2	-0.004715	-0.004715	ug/l	148.02	#VALUE!		210.00	207.78	240.00
52 Cr # 2	-0.01138	-0.01138	ug/l	32.75	#VALUE!		278.89	302.23	296.67
55 Mn # 3	0.0209	0.0209	ug/l	17.51	#VALUE!		1800.14	1920.15	1923.49
56 Fe # 1	1.209	1.209	ug/l	4.36	#VALUE!		14699.54	13958.94	14342.60
59 Co # 3	0.0002464	0.0002464	ug/l	519.89	#VALUE!		70.00	56.67	93.34
60 Ni # 2	-0.01174	-0.01174	ug/l	39.85	#VALUE!		38.89	30.00	40.00
63 Cu # 2	-0.08093	-0.08093	ug/l	2.17	#VALUE!		164.45	174.45	174.45
66 Zn # 3	-0.09074	-0.09074	ug/l	8.62	#VALUE!		466.69	436.68	440.02
75 As # 2	0.002664	0.002664	ug/l	240.24	#VALUE!		18.33	14.67	14.33
78 Se # 1	-0.02962	-0.02962	ug/l	17.61	#VALUE!		11.00	13.33	13.33
88 Sr # 3	0.001754	0.001754	ug/l	94.98	#VALUE!		193.34	253.34	173.34
95 Mo # 3	0.07733	0.07733	ug/l	3.42	#VALUE!		433.35	413.35	430.02
107 Ag # 3	-0.001389	-0.001389	ug/l	152.63	#VALUE!		113.34	83.34	130.00
111 Cd # 3	0.004162	0.004162	ug/l	57.59	#VALUE!		13.24	13.24	23.24
118 Sn # 3	0.01442	0.01442	ug/l	31.13	#VALUE!		810.04	866.71	806.71
121 Sb # 3	0.02099	0.02099	ug/l	29.49	#VALUE!		256.68	270.01	166.67
137 Ba # 3	0.001076	0.001076	ug/l	203.62	#VALUE!		53.34	36.67	40.00
202 Hg # 3	0.01123	0.01123	ug/l	16.79	#VALUE!		157.00	145.34	150.67
205 Tl # 3	-0.002595	-0.002595	ug/l	39.69	#VALUE!		140.01	90.00	130.01
208 Pb # 3	-0.02184	-0.02184	ug/l	5.26	#VALUE!		573.36	556.69	640.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	415325.06	1.03	442436.88	93.9	60 - 125		411286.09	419829.06	414860.03
45 Sc # 1	430784.53	0.73	456299.72	94.4	60 - 125		427497.13	431119.31	433737.09
45 Sc # 3	764560.06	1.01	765061.25	99.9	60 - 125		771701.88	765650.31	756328.13
74 Ge # 1	149244.25	0.13	153441.28	97.3	60 - 125		149288.77	149031.97	149411.97
74 Ge # 2	45691.50	0.25	47804.94	95.6	60 - 125		45673.70	45811.82	45589.00
74 Ge # 3	223786.84	0.06	224564.78	99.7	60 - 125		223767.70	223938.45	223654.42
89 Y # 3	1318470.10	0.55	1302847.50	101.2	60 - 125		1325288.10	1310770.90	1319351.40
115 In # 3	1346845.80	0.05	1366177.60	98.6	60 - 125		1347609.30	1346331.90	1346596.00
159 Tb # 3	1863499.40	0.77	2052817.90	90.8	60 - 125		1860678.50	1850698.30	1879121.30
209 Bi # 3	1224381.50	1.19	1405468.50	87.1	60 - 125		1235978.80	1208013.10	1229152.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\123SMPL.D\123SMPL.D#
 Date Acquired: Aug 26 2014 10:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345896_1-b
 Misc Info: 3005 1/5
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babha.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001261	0.001261	ug/l	252.66	100.00		10.00	0.00	0.00
11 B # 3	1.707	1.707	ug/l	2.77	1800.00		4747.36	4633.99	4740.70
23 Na # 1	-5.524	-5.524	ug/l	3.58	81000.00		72881.22	73560.41	72693.56
24 Mg # 1	0.5997	0.5997	ug/l	5.44	81000.00		2406.89	2496.90	2360.21
27 Al # 1	1.228	1.228	ug/l	1.60	81000.00		4954.13	4864.08	4990.79
39 K # 2	-10.23	-10.23	ug/l	11.62	81000.00		9616.02	9676.06	9536.01
40 Ca # 1	4.008	4.008	ug/l	1.06	81000.00		50551.41	49752.75	50056.87
47 Ti # 3	-0.02536	-0.02536	ug/l	31.20	1620.00		80.00	90.00	76.67
51 V # 2	0.1276	0.1276	ug/l	5.96	1800.00		570.01	565.57	600.02
52 Cr # 2	0.04085	0.04085	ug/l	19.44	1800.00		448.90	447.79	506.68
55 Mn # 3	0.01891	0.01891	ug/l	23.55	1800.00		1736.81	1896.83	1806.81
56 Fe # 1	0.7994	0.7994	ug/l	1.85	81000.00		10956.84	10890.14	10723.39
59 Co # 3	-0.001146	-0.001146	ug/l	139.53	1800.00		60.00	26.67	70.00
60 Ni # 2	0.03699	0.03699	ug/l	29.47	1800.00		88.89	85.56	113.33
63 Cu # 2	-0.07279	-0.07279	ug/l	6.25	1800.00		202.23	186.67	213.34
66 Zn # 3	0.07923	0.07923	ug/l	31.58	1800.00		743.37	800.04	836.71
75 As # 2	0.05399	0.05399	ug/l	21.52	100.00		34.33	37.67	30.33
78 Se # 1	-0.04551	-0.04551	ug/l	12.75	100.00		9.67	6.67	8.67
88 Sr # 3	0.002866	0.002866	ug/l	42.25	1800.00		256.68	200.01	243.34
95 Mo # 3	0.05138	0.05138	ug/l	9.01	1800.00		300.01	326.68	330.01
107 Ag # 3	-0.0009971	-0.0009971	ug/l	170.90	100.00		123.34	123.34	90.00
111 Cd # 3	0.003305	0.003305	ug/l	48.59	100.00		16.60	9.93	16.59
118 Sn # 3	0.0272	0.0272	ug/l	26.13	1800.00		923.39	860.05	963.39
121 Sb # 3	0.01196	0.01196	ug/l	21.00	100.00		170.01	150.01	123.34
137 Ba # 3	0.01266	0.01266	ug/l	38.62	1800.00		73.34	83.34	110.00
202 Hg # 3	-0.007888	-0.007888	ug/l	50.09	5.00		85.33	107.34	90.00
205 Tl # 3	-0.00445	-0.00445	ug/l	5.62	20.00		73.34	66.67	80.00
208 Pb # 3	-0.01395	-0.01395	ug/l	8.72	1800.00		813.37	876.71	900.04
232 Th # 3	0.05662	0.05662	ug/l	4.94	#VALUE!		2386.94	2243.57	2200.23
238 U # 3	0.0003594	0.0003594	ug/l	43.68	#VALUE!		46.67	36.67	36.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	416419.72	0.59	442436.88	94.1	60 - 125		418925.34	416290.78	414042.97
45 Sc # 1	428226.13	0.29	456299.72	93.8	60 - 125		429297.84	426847.72	428532.84
45 Sc # 3	752861.06	2.13	765061.25	98.4	60 - 125		760862.38	734437.56	763283.19
74 Ge # 1	147220.95	0.58	153441.28	95.9	60 - 125		148002.73	146306.97	147353.14
74 Ge # 2	46456.46	3.97	47804.94	97.2	60 - 125		44359.40	47198.68	47811.32
74 Ge # 3	220196.58	0.65	224564.78	98.1	60 - 125		221470.98	220456.45	218662.31
89 Y # 3	1308345.30	0.70	1302847.50	100.4	60 - 125		1307780.90	1317836.30	1299418.60
115 In # 3	1333869.60	0.60	1366177.60	97.6	60 - 125		1342828.50	1331476.30	1327304.10
159 Tb # 3	1868221.40	0.53	2052817.90	91.0	60 - 125		1862940.00	1862181.30	1879543.10
209 Bi # 3	1197366.40	0.51	1405468.50	85.2	60 - 125		1194894.80	1204369.60	1192834.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\124SMPL.D\124SMPL.D#
 Date Acquired: Aug 26 2014 11:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345896_2-b
 Misc Info: 3005 1/5
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babha.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.681	9.681	ug/l	1.11	100.00		17444.79	17181.22	17501.48
11 B # 3	40.54	40.54	ug/l	0.19	1800.00		59601.04	59417.57	59350.70
23 Na # 1	1040	1040	ug/l	0.64	81000.00		3480357.80	3524000.00	3510607.00
24 Mg # 1	1059	1059	ug/l	0.45	81000.00		2448729.30	2430727.80	2433645.50
27 Al # 1	1052	1052	ug/l	0.87	81000.00		2843396.30	2886881.30	2891798.80
39 K # 2	1018	1018	ug/l	0.20	81000.00		344946.31	345142.03	345373.84
40 Ca # 1	1093	1093	ug/l	0.59	81000.00		6929650.00	6976487.00	6908458.00
47 Ti # 3	19.77	19.77	ug/l	3.64	1620.00		21642.94	21158.99	21773.02
51 V # 2	20.08	20.08	ug/l	0.83	1800.00		50970.13	51653.08	51225.24
52 Cr # 2	20.1	20.1	ug/l	0.25	1800.00		62191.63	62110.26	62381.16
55 Mn # 3	107.7	107.7	ug/l	1.12	1800.00		1973140.00	2014113.90	1981046.00
56 Fe # 1	1095	1095	ug/l	0.29	81000.00		9050061.00	9044636.00	9018318.00
59 Co # 3	10.55	10.55	ug/l	0.32	1800.00		148130.56	147962.48	146645.16
60 Ni # 2	20.67	20.67	ug/l	0.76	1800.00		23822.03	23728.58	23458.25
63 Cu # 2	19.84	19.84	ug/l	0.30	1800.00		62739.08	62651.22	62371.28
66 Zn # 3	18.77	18.77	ug/l	0.48	1800.00		38998.76	38768.18	38447.40
75 As # 2	19.88	19.88	ug/l	0.36	100.00		6670.90	6616.87	6670.56
78 Se # 1	19.09	19.09	ug/l	0.20	100.00		4823.65	4797.97	4790.64
88 Sr # 3	18.6	18.6	ug/l	0.55	1800.00		472425.41	468675.00	469311.25
95 Mo # 3	20.2	20.2	ug/l	0.67	1800.00		77800.41	78864.39	78476.38
107 Ag # 3	10.01	10.01	ug/l	0.18	100.00		108312.42	108771.73	108457.23
111 Cd # 3	9.546	9.546	ug/l	1.63	100.00		22427.78	22704.66	21920.28
118 Sn # 3	39.79	39.79	ug/l	0.48	1800.00		294057.22	292150.41	293885.66
121 Sb # 3	9.609	9.609	ug/l	0.19	100.00		84985.16	84817.60	84526.11
137 Ba # 3	19.37	19.37	ug/l	0.69	1800.00		75828.80	75096.16	75835.74
202 Hg # 3	0.8368	0.8368	ug/l	1.41	5.00		2568.21	2652.90	2596.88
205 Tl # 3	7.274	7.274	ug/l	0.71	20.00		182309.39	183285.30	184241.45
208 Pb # 3	9.31	9.31	ug/l	0.62	1800.00		318664.31	321022.84	321800.41
232 Th # 3	10.01	10.01	ug/l	0.30	#VALUE!		347628.03	348244.84	346513.00
238 U # 3	9.724	9.724	ug/l	0.66	#VALUE!		352860.09	351843.16	349199.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	414874.81	0.16	442436.88	93.8	60 - 125		415106.56	415378.63	414139.22
45 Sc # 1	426630.03	0.10	456299.72	93.5	60 - 125		426365.75	426377.13	427147.22
45 Sc # 3	736674.00	2.15	765061.25	96.3	60 - 125		730600.00	754684.06	724737.94
74 Ge # 1	144498.52	0.23	153441.28	94.2	60 - 125		144857.27	144218.84	144419.41
74 Ge # 2	43919.38	0.16	47804.94	91.9	60 - 125		43991.77	43855.92	43910.43
74 Ge # 3	215376.36	0.24	224564.78	95.9	60 - 125		215825.41	215493.75	214809.94
89 Y # 3	1300307.80	0.34	1302847.50	99.8	60 - 125		1299435.00	1296362.50	1305126.00
115 In # 3	1308335.60	0.15	1366177.60	95.8	60 - 125		1308662.10	1310155.30	1306189.30
159 Tb # 3	1859422.50	0.37	2052817.90	90.6	60 - 125		1857064.50	1867264.50	1853938.30
209 Bi # 3	1160324.90	0.36	1405468.50	82.6	60 - 125		1156827.10	1165023.40	1159124.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\125SMPL.D\125SMPL.D#
 Date Acquired: Aug 26 2014 11:10 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-1-d
 Misc Info: 3005 1/5
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	9.233	9.233	ug/l	0.55	1800.00		15236.29	15062.78	15086.17
23 Na # 1	6247	6247	ug/l	0.33	81000.00		20186564.00	20355564.00	20413854.00
24 Mg # 1	2502	2502	ug/l	0.42	81000.00		5661940.50	5675670.00	5710364.00
27 Al # 1	1.101	1.101	ug/l	1.08	81000.00		4487.33	4497.31	4550.70
39 K # 2	308.8	308.8	ug/l	0.43	81000.00		114232.94	113955.06	113941.64
40 Ca # 1	14780	14780	ug/l	0.64	81000.00		92384776.00	91875200.00	92432456.00
47 Ti # 3	0.08918	0.08918	ug/l	25.39	1620.00		193.34	230.01	193.34
51 V # 2	0.1607	0.1607	ug/l	5.99	1800.00		660.02	614.46	631.13
52 Cr # 2	0.05156	0.05156	ug/l	16.01	1800.00		463.34	463.34	507.79
55 Mn # 3	241.2	241.2	ug/l	0.84	1800.00		4448889.50	4505943.50	4453129.00
56 Fe # 1	7.784	7.784	ug/l	0.88	81000.00		67017.62	67392.28	68262.69
59 Co # 3	0.1278	0.1278	ug/l	2.35	1800.00		1913.49	1823.47	1843.48
60 Ni # 2	0.2805	0.2805	ug/l	8.16	1800.00		344.45	398.90	370.01
63 Cu # 2	-0.01371	-0.01371	ug/l	49.58	1800.00		353.34	382.23	396.68
66 Zn # 3	1.051	1.051	ug/l	0.70	1800.00		2773.63	2773.63	2733.62
75 As # 2	0.4392	0.4392	ug/l	3.84	100.00		168.00	159.00	158.67
78 Se # 1	0.009409	0.009409	ug/l	174.09	100.00		17.67	26.00	22.33
88 Sr # 3	62.9	62.9	ug/l	0.48	1800.00		1547642.00	1563046.40	1567381.60
95 Mo # 3	1.215	1.215	ug/l	3.26	1800.00		4764.11	4904.15	4604.04
107 Ag # 3	-0.004499	-0.004499	ug/l	3.69	100.00		70.00	70.00	73.34
111 Cd # 3	0.005011	0.005011	ug/l	144.68	100.00		15.62	2.25	35.65
118 Sn # 3	0.01641	0.01641	ug/l	15.46	1800.00		783.37	810.04	830.04
121 Sb # 3	0.01723	0.01723	ug/l	14.96	100.00		163.34	193.34	210.01
137 Ba # 3	31.5	31.5	ug/l	0.67	1800.00		119339.62	122700.47	121632.94
202 Hg # 3	-0.008771	-0.008771	ug/l	36.23	5.00		99.67	90.67	80.00
205 Tl # 3	0.00431	0.00431	ug/l	15.65	20.00		296.68	303.35	270.01
208 Pb # 3	5.048	5.048	ug/l	0.83	1800.00		172310.91	171520.36	173055.59
232 Th # 3	0.1074	0.1074	ug/l	10.60	#VALUE!		4177.36	3617.20	3583.87
238 U # 3	0.06017	0.06017	ug/l	2.37	#VALUE!		2026.86	2096.88	2186.89

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	410126.44	0.47	442436.88	92.7	60 - 125		411383.31	407912.84	411083.16
45 Sc # 1	421022.03	0.36	456299.72	92.3	60 - 125		419333.63	422327.13	421405.34
45 Sc # 3	740596.69	1.70	765061.25	96.8	60 - 125		751977.38	727106.00	742706.63
74 Ge # 1	144849.67	0.37	153441.28	94.4	60 - 125		144236.58	145090.83	145221.59
74 Ge # 2	44193.73	0.25	47804.94	92.4	60 - 125		44078.64	44298.14	44204.43
74 Ge # 3	216162.34	0.39	224564.78	96.3	60 - 125		217007.64	216148.88	215330.52
89 Y # 3	1275818.40	0.21	1302847.50	97.9	60 - 125		1272728.90	1277960.50	1276765.50
115 In # 3	1290677.10	0.78	1366177.60	94.5	60 - 125		1279114.80	1297647.60	1295269.10
159 Tb # 3	1837158.10	0.59	2052817.90	89.5	60 - 125		1849151.90	1834084.10	1828238.50
209 Bi # 3	1109690.30	2.34	1405468.50	79.0	60 - 125		1099015.40	1090745.40	1139310.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\126SMPL.D\126SMPL.D#
 Date Acquired: Aug 26 2014 11:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-1-dSD
 Misc Info: 3005 1/25
 Vial Number: 2404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006805	0.001361	ug/l	142.54	100.00		3.33	6.67	0.00
11 B # 3	13.015	2.603	ug/l	3.53	1800.00		5811.02	5731.01	5814.35
23 Na # 1	6380	1276	ug/l	0.38	81000.00		4103382.50	4113281.50	4139700.00
24 Mg # 1	2645	529	ug/l	0.47	81000.00		1169590.60	1168884.60	1180420.30
27 Al # 1	3.231	0.6462	ug/l	3.42	81000.00		3177.03	3270.39	3167.00
39 K # 2	262.9	52.58	ug/l	2.08	81000.00		29109.61	29400.13	29687.07
40 Ca # 1	15135	3027	ug/l	1.08	81000.00		18212376.00	18487894.00	18629910.00
47 Ti # 3	-0.05385	-0.01077	ug/l	89.37	1620.00		80.00	96.67	106.67
51 V # 2	0.35055	0.07011	ug/l	12.46	1800.00		398.90	373.34	422.23
52 Cr # 2	0.26935	0.05387	ug/l	21.31	1800.00		451.12	513.35	471.12
55 Mn # 3	252.85	50.57	ug/l	3.42	1800.00		949071.25	928393.19	928989.69
56 Fe # 1	8.77	1.754	ug/l	2.45	81000.00		18012.39	18316.06	17658.83
59 Co # 3	0.11075	0.02215	ug/l	11.16	1800.00		366.68	406.68	356.68
60 Ni # 2	0.731	0.1462	ug/l	5.16	1800.00		224.45	207.78	208.89
63 Cu # 2	-0.411	-0.0822	ug/l	4.66	1800.00		146.67	167.78	163.34
66 Zn # 3	0.555	0.111	ug/l	19.46	1800.00		856.71	776.71	893.38
75 As # 2	0.4567	0.09134	ug/l	15.89	100.00		50.00	42.67	40.67
78 Se # 1	-0.2307	-0.04614	ug/l	17.81	100.00		8.33	5.67	9.67
88 Sr # 3	60.5	12.1	ug/l	2.56	1800.00		303041.53	302148.44	304060.88
95 Mo # 3	1.3025	0.2605	ug/l	10.72	1800.00		1213.41	1103.40	1063.40
107 Ag # 3	-0.01346	-0.002692	ug/l	32.11	100.00		80.00	96.67	100.00
111 Cd # 3	0.016465	0.003293	ug/l	88.92	100.00		19.73	6.42	16.43
118 Sn # 3	-0.1387	-0.02774	ug/l	2.75	1800.00		483.35	490.02	516.69
121 Sb # 3	0.020665	0.004133	ug/l	48.42	100.00		60.00	70.00	100.00
137 Ba # 3	31.33	6.266	ug/l	4.81	1800.00		24865.42	24595.06	24267.79
202 Hg # 3	-0.026215	-0.005243	ug/l	68.00	5.00		89.33	110.00	103.00
205 Tl # 3	-0.0137	-0.00274	ug/l	33.55	20.00		120.00	130.01	93.34
208 Pb # 3	4.984	0.9968	ug/l	5.77	1800.00		35940.24	34912.86	34636.10
232 Th # 3	0.1819	0.03638	ug/l	8.66	#VALUE!		1520.13	1423.45	1446.78
238 U # 3	0.05475	0.01095	ug/l	8.62	#VALUE!		426.69	363.35	443.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	403340.69	2.54	442436.88	91.2	60 - 125		397622.22	397229.91	415169.94
45 Sc # 1	410637.44	0.08	456299.72	90.0	60 - 125		410385.13	410502.28	411024.91
45 Sc # 3	720279.13	5.19	765061.25	94.1	60 - 125		698551.81	698812.94	763472.56
74 Ge # 1	142148.39	0.16	153441.28	92.6	60 - 125		142070.69	141976.78	142397.73
74 Ge # 2	43591.92	0.71	47804.94	91.2	60 - 125		43768.98	43235.53	43771.25
74 Ge # 3	215640.88	2.76	224564.78	96.0	60 - 125		212722.11	211712.13	222488.38
89 Y # 3	1289605.60	2.83	1302847.50	99.0	60 - 125		1262367.80	1275313.40	1331135.50
115 In # 3	1315528.90	3.84	1366177.60	96.3	60 - 125		1291612.90	1281384.60	1373589.00
159 Tb # 3	1843980.10	4.09	2052817.90	89.8	60 - 125		1795409.40	1805577.00	1930953.80
209 Bi # 3	1131282.80	5.61	1405468.50	80.5	60 - 125		1094129.90	1095165.40	1204552.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\127SMPL.D\127SMPL.D#
 Date Acquired: Aug 26 2014 11:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-1-dPDS
 Misc Info: 3005 1/5
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	19.28	19.28	ug/l	0.28	100.00		33716.12	33802.97	34006.66
11 B # 3	47.23	47.23	ug/l	1.07	1800.00		67275.84	67798.02	67055.07
23 Na # 1	8526	8526	ug/l	2.68	81000.00		27093300.00	26777072.00	26550382.00
24 Mg # 1	4663	4663	ug/l	2.02	81000.00		10301313.00	10223038.00	10231845.00
27 Al # 1	217.6	217.6	ug/l	1.15	81000.00		566538.44	568798.06	572397.81
39 K # 2	2391	2391	ug/l	1.64	81000.00		781041.88	797783.63	778515.81
40 Ca # 1	17240	17240	ug/l	1.50	81000.00		104173560.00	103569930.00	104763830.00
47 Ti # 3	20.68	20.68	ug/l	1.31	1620.00		22283.73	22050.03	22253.74
51 V # 2	20.09	20.09	ug/l	1.49	1800.00		50439.87	50718.37	51226.31
52 Cr # 2	19.82	19.82	ug/l	0.95	1800.00		60732.53	60478.23	61008.95
55 Mn # 3	445.5	445.5	ug/l	0.18	1800.00		8161628.00	8121075.50	8152155.00
56 Fe # 1	2215	2215	ug/l	2.06	81000.00		17566728.00	17362060.00	17457906.00
59 Co # 3	20.35	20.35	ug/l	0.35	1800.00		282062.97	280576.88	282713.91
60 Ni # 2	20.49	20.49	ug/l	1.04	1800.00		23166.76	23174.53	23321.38
63 Cu # 2	19.48	19.48	ug/l	1.42	1800.00		60456.11	60650.02	61316.61
66 Zn # 3	19.42	19.42	ug/l	1.43	1800.00		40244.64	39055.35	39726.88
75 As # 2	20.02	20.02	ug/l	1.66	100.00		6581.86	6603.87	6706.58
78 Se # 1	19.13	19.13	ug/l	1.73	100.00		4710.62	4636.93	4609.26
88 Sr # 3	82.6	82.6	ug/l	1.10	1800.00		2051125.10	2027781.60	2029794.10
95 Mo # 3	21.4	21.4	ug/l	1.31	1800.00		81938.24	82846.17	81195.02
107 Ag # 3	18.94	18.94	ug/l	0.70	100.00		203158.69	201260.08	203817.81
111 Cd # 3	18.67	18.67	ug/l	1.48	100.00		43035.89	42671.54	43777.67
118 Sn # 3	19.43	19.43	ug/l	1.00	1800.00		143441.16	139504.34	142376.14
121 Sb # 3	18.79	18.79	ug/l	0.65	100.00		163784.45	162844.67	164296.53
137 Ba # 3	50.76	50.76	ug/l	0.27	1800.00		197150.30	194947.55	194351.61
202 Hg # 3	0.8808	0.8808	ug/l	1.22	5.00		2696.58	2714.58	2660.57
205 Tl # 3	3.669	3.669	ug/l	0.50	20.00		91392.28	90182.78	91342.74
208 Pb # 3	23.48	23.48	ug/l	0.57	1800.00		791909.75	790563.94	795766.75
232 Th # 3	20.98	20.98	ug/l	3.81	#VALUE!		691050.00	684480.56	695204.19
238 U # 3	19.84	19.84	ug/l	3.80	#VALUE!		678695.13	675456.94	684176.75

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	405734.72	0.70	442436.88	91.7	60 - 125		403006.44	405524.09	408673.63
45 Sc # 1	407570.78	1.65	456299.72	89.3	60 - 125		400631.34	408065.97	414015.03
45 Sc # 3	726082.56	1.49	765061.25	94.9	60 - 125		721003.50	718741.00	738503.31
74 Ge # 1	139696.92	0.67	153441.28	91.0	60 - 125		138990.95	139335.61	140764.22
74 Ge # 2	43473.83	0.73	47804.94	90.9	60 - 125		43831.38	43372.43	43217.68
74 Ge # 3	213288.95	0.10	224564.78	95.0	60 - 125		213522.16	213110.58	213234.11
89 Y # 3	1268843.40	0.47	1302847.50	97.4	60 - 125		1262171.30	1273686.90	1270671.90
115 In # 3	1291952.50	0.64	1366177.60	94.6	60 - 125		1301332.10	1285991.80	1288533.50
159 Tb # 3	1827971.90	0.47	2052817.90	89.0	60 - 125		1837353.30	1820776.00	1825786.30
209 Bi # 3	1101389.50	4.48	1405468.50	78.4	60 - 125		1071425.00	1074402.00	1158341.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\128SMPL.D\128SMPL.D#
 Date Acquired: Aug 26 2014 11:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-1-e.ms
 Misc Info: 3005 1/5
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.975	9.975	ug/l	2.13	100.00		16907.64	17117.80	17614.94
11 B # 3	49.34	49.34	ug/l	0.18	1800.00		69239.48	69091.99	68968.56
23 Na # 1	7271	7271	ug/l	0.55	81000.00		23145990.00	23030514.00	22905760.00
24 Mg # 1	3523	3523	ug/l	0.19	81000.00		7812211.50	7767898.00	7807547.50
27 Al # 1	1065	1065	ug/l	0.22	81000.00		2806819.00	2790855.50	2796688.80
39 K # 2	1328	1328	ug/l	0.56	81000.00		435744.22	437350.56	433219.22
40 Ca # 1	15790	15790	ug/l	0.52	81000.00		95616712.00	96411560.00	95994440.00
47 Ti # 3	20.46	20.46	ug/l	2.10	1620.00		21789.83	21269.25	20968.85
51 V # 2	20.09	20.09	ug/l	0.76	1800.00		50357.43	49718.02	50073.36
52 Cr # 2	20.02	20.02	ug/l	0.53	1800.00		60487.26	60719.12	60159.33
55 Mn # 3	343.2	343.2	ug/l	0.51	1800.00		6169775.50	6244172.50	6206135.00
56 Fe # 1	1107	1107	ug/l	0.11	81000.00		8802941.00	8767926.00	8803491.00
59 Co # 3	10.34	10.34	ug/l	1.16	1800.00		141056.23	141281.30	142617.75
60 Ni # 2	20.36	20.36	ug/l	0.10	1800.00		22714.01	22744.01	22735.12
63 Cu # 2	19.49	19.49	ug/l	0.71	1800.00		60230.89	59538.65	60121.67
66 Zn # 3	19.36	19.36	ug/l	1.54	1800.00		39342.70	39058.60	38968.64
75 As # 2	20.14	20.14	ug/l	0.71	100.00		6612.21	6553.18	6545.85
78 Se # 1	17.75	17.75	ug/l	1.43	100.00		4393.54	4421.22	4351.87
88 Sr # 3	82.26	82.26	ug/l	0.71	1800.00		1987317.90	2011681.90	2010467.00
95 Mo # 3	20.99	20.99	ug/l	0.18	1800.00		79500.81	79470.97	79541.08
107 Ag # 3	9.786	9.786	ug/l	0.44	100.00		103350.21	103473.26	104073.84
111 Cd # 3	9.575	9.575	ug/l	2.31	100.00		21349.34	22187.11	22133.80
118 Sn # 3	39.45	39.45	ug/l	0.60	1800.00		282578.91	284297.75	285083.94
121 Sb # 3	9.713	9.713	ug/l	0.92	100.00		83122.50	83417.33	84506.16
137 Ba # 3	50.45	50.45	ug/l	1.66	1800.00		188844.31	193971.34	193559.47
202 Hg # 3	0.8155	0.8155	ug/l	2.16	5.00		2418.52	2430.86	2522.21
205 Tl # 3	7.432	7.432	ug/l	1.55	20.00		181219.61	180087.13	181577.67
208 Pb # 3	14.62	14.62	ug/l	0.47	1800.00		479491.56	487849.47	490059.53
232 Th # 3	10.34	10.34	ug/l	2.22	#VALUE!		333081.50	335085.84	337002.34
238 U # 3	10.38	10.38	ug/l	2.41	#VALUE!		346500.03	352136.56	351487.91

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	398913.38	0.12	442436.88	90.2	60 - 125		399355.00	398410.66	398974.47
45 Sc # 1	410193.78	0.13	456299.72	89.9	60 - 125		410437.75	409600.06	410543.50
45 Sc # 3	705406.63	0.37	765061.25	92.2	60 - 125		703517.38	708370.63	704332.00
74 Ge # 1	141948.50	0.64	153441.28	92.5	60 - 125		142120.94	140966.98	142757.58
74 Ge # 2	42833.49	0.15	47804.94	89.6	60 - 125		42760.03	42856.92	42883.53
74 Ge # 3	210993.22	1.10	224564.78	94.0	60 - 125		208623.84	213278.47	211077.28
89 Y # 3	1253343.40	1.33	1302847.50	96.2	60 - 125		1234879.80	1258074.00	1267076.30
115 In # 3	1277618.40	0.20	1366177.60	93.5	60 - 125		1280041.00	1275057.10	1277756.80
159 Tb # 3	1797134.50	1.30	2052817.90	87.5	60 - 125		1770464.50	1814332.50	1806606.60
209 Bi # 3	1083979.60	2.78	1405468.50	77.1	60 - 125		1063323.00	1070094.10	1118522.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\129SMPL.D\129SMPL.D#
 Date Acquired: Aug 26 2014 11:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-1-f md
 Misc Info: 3005 1/5
 Vial Number: 2407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.449	9.449	ug/l	3.71	100.00		16527.31	16397.06	16780.81
11 B # 3	46.74	46.74	ug/l	4.54	1800.00		66767.85	66152.34	66941.77
23 Na # 1	7133	7133	ug/l	0.63	81000.00		22388576.00	22341264.00	22102956.00
24 Mg # 1	3440	3440	ug/l	0.67	81000.00		7544754.00	7500605.00	7479085.00
27 Al # 1	1029	1029	ug/l	0.46	81000.00		2672338.50	2667803.30	2658870.00
39 K # 2	1306	1306	ug/l	0.75	81000.00		421069.72	429444.84	419544.06
40 Ca # 1	15470	15470	ug/l	0.27	81000.00		92271784.00	93351760.00	92626848.00
47 Ti # 3	18.94	18.94	ug/l	8.27	1620.00		20471.62	20218.07	20077.89
51 V # 2	19.2	19.2	ug/l	0.20	1800.00		47162.47	47464.38	47191.47
52 Cr # 2	19.13	19.13	ug/l	0.94	1800.00		57286.11	56862.54	57201.43
55 Mn # 3	327.1	327.1	ug/l	5.87	1800.00		6033088.50	6001990.00	5927823.00
56 Fe # 1	1053	1053	ug/l	0.34	81000.00		8194346.50	8297579.00	8237911.50
59 Co # 3	9.893	9.893	ug/l	5.64	1800.00		137905.97	137446.19	136170.25
60 Ni # 2	19.88	19.88	ug/l	0.93	1800.00		22029.86	21849.60	21931.92
63 Cu # 2	18.87	18.87	ug/l	1.09	1800.00		57691.71	57046.30	57392.09
66 Zn # 3	18.64	18.64	ug/l	5.50	1800.00		38230.40	38253.64	37959.85
75 As # 2	19.08	19.08	ug/l	0.60	100.00		6132.04	6157.04	6173.72
78 Se # 1	17.59	17.59	ug/l	0.85	100.00		4285.18	4241.84	4253.84
88 Sr # 3	77.8	77.8	ug/l	5.31	1800.00		1938013.30	1917737.60	1939591.00
95 Mo # 3	20.08	20.08	ug/l	3.78	1800.00		77240.68	76407.63	77481.95
107 Ag # 3	9.344	9.344	ug/l	3.78	100.00		99782.78	100101.17	100771.48
111 Cd # 3	9.248	9.248	ug/l	4.23	100.00		21236.45	21563.61	21433.22
118 Sn # 3	36.93	36.93	ug/l	4.26	1800.00		270238.84	268306.34	269218.66
121 Sb # 3	9.27	9.27	ug/l	4.61	100.00		81706.20	80326.48	80574.38
137 Ba # 3	48.08	48.08	ug/l	5.07	1800.00		186414.61	186229.63	183543.38
202 Hg # 3	0.7797	0.7797	ug/l	5.60	5.00		2407.52	2394.19	2419.86
205 Tl # 3	7.074	7.074	ug/l	6.05	20.00		174833.06	177945.39	175480.03
208 Pb # 3	13.65	13.65	ug/l	5.80	1800.00		463528.13	464114.22	463451.56
232 Th # 3	9.737	9.737	ug/l	8.20	#VALUE!		324114.31	322327.44	321329.41
238 U # 3	9.793	9.793	ug/l	7.73	#VALUE!		337038.94	337947.13	338483.22

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	405822.06	4.86	442436.88	91.7	60 - 125		393284.09	395617.22	428564.88
45 Sc # 1	404487.47	0.47	456299.72	88.6	60 - 125		403628.31	406662.84	403171.34
45 Sc # 3	725989.13	7.82	765061.25	94.9	60 - 125		693976.94	692465.13	791525.19
74 Ge # 1	139011.55	0.32	153441.28	90.6	60 - 125		138500.31	139355.53	139178.80
74 Ge # 2	42329.31	0.55	47804.94	88.5	60 - 125		42186.41	42597.31	42204.20
74 Ge # 3	213975.64	5.15	224564.78	95.3	60 - 125		206977.36	208261.52	226687.98
89 Y # 3	1280552.30	5.83	1302847.50	98.3	60 - 125		1239665.80	1235251.60	1366739.40
115 In # 3	1295302.00	4.34	1366177.60	94.8	60 - 125		1263862.40	1261902.30	1360141.50
159 Tb # 3	1841275.10	5.94	2052817.90	89.7	60 - 125		1771905.10	1784557.00	1967363.10
209 Bi # 3	1112662.30	8.26	1405468.50	79.2	60 - 125		1062037.80	1057262.80	1218686.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\130SMPL.D\130SMPL.D#
 Date Acquired: Aug 26 2014 11:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-2-b
 Misc Info: 3005 1/5
 Vial Number: 2408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	41.33	41.33	ug/l	1.32	1800.00		56916.82	57869.47	56819.58
23 Na # 1	12630	12630	ug/l	0.04	81000.00		39459768.00	39341424.00	39103732.00
24 Mg # 1	3110	3110	ug/l	0.37	81000.00		6770222.50	6797341.50	6752678.00
27 Al # 1	1.237	1.237	ug/l	3.67	81000.00		4634.03	4607.35	4790.75
39 K # 2	1071	1071	ug/l	0.30	81000.00		342446.31	345239.84	347123.03
40 Ca # 1	18460	18460	ug/l	0.43	81000.00		110343220.00	110850170.00	110232080.00
47 Ti # 3	0.2512	0.2512	ug/l	8.90	1620.00		330.01	376.68	363.35
51 V # 2	0.6308	0.6308	ug/l	2.59	1800.00		1736.77	1767.88	1708.98
52 Cr # 2	0.1998	0.1998	ug/l	6.92	1800.00		832.25	917.81	910.03
55 Mn # 3	0.1927	0.1927	ug/l	1.74	1800.00		4674.05	4830.77	4747.40
56 Fe # 1	1.004	1.004	ug/l	2.23	81000.00		11677.29	11984.18	11817.41
59 Co # 3	0.02296	0.02296	ug/l	7.02	1800.00		386.68	376.68	346.68
60 Ni # 2	0.2492	0.2492	ug/l	6.85	1800.00		334.45	310.01	305.56
63 Cu # 2	0.2628	0.2628	ug/l	3.58	1800.00		1141.16	1182.27	1220.05
66 Zn # 3	1.861	1.861	ug/l	5.85	1800.00		4140.58	4013.89	4420.65
75 As # 2	0.2521	0.2521	ug/l	1.92	100.00		94.00	92.00	95.00
78 Se # 1	0.314	0.314	ug/l	5.69	100.00		91.00	92.00	98.33
88 Sr # 3	70.36	70.36	ug/l	0.44	1800.00		1676239.50	1675979.40	1686607.60
95 Mo # 3	0.3635	0.3635	ug/l	8.69	1800.00		1360.09	1586.78	1423.43
107 Ag # 3	-0.003879	-0.003879	ug/l	50.45	100.00		63.34	63.34	100.00
111 Cd # 3	0.0011	0.0011	ug/l	205.18	100.00		3.03	12.98	9.69
118 Sn # 3	0.008181	0.008181	ug/l	75.99	1800.00		766.71	686.70	723.37
121 Sb # 3	0.05612	0.05612	ug/l	9.32	100.00		523.36	543.36	466.69
137 Ba # 3	10.47	10.47	ug/l	1.91	1800.00		39603.27	38467.49	39299.52
202 Hg # 3	-0.01075	-0.01075	ug/l	39.08	5.00		67.33	88.00	88.34
205 Tl # 3	0.007023	0.007023	ug/l	13.21	20.00		360.02	353.35	320.01
208 Pb # 3	0.01542	0.01542	ug/l	299.29	1800.00		3509.28	886.70	930.04
232 Th # 3	0.1425	0.1425	ug/l	6.68	#VALUE!		4984.34	4744.24	4447.44
238 U # 3	0.4147	0.4147	ug/l	1.65	#VALUE!		13396.22	13626.45	14010.21

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391846.63	0.26	442436.88	88.6	60 - 125		392394.00	390673.75	392472.13
45 Sc # 1	403615.81	0.43	456299.72	88.5	60 - 125		405142.25	403951.50	401753.78
45 Sc # 3	690730.06	0.72	765061.25	90.3	60 - 125		689052.94	696350.44	686786.75
74 Ge # 1	137923.98	0.70	153441.28	89.9	60 - 125		139010.91	137143.73	137617.30
74 Ge # 2	41783.97	0.97	47804.94	87.4	60 - 125		41370.02	41803.27	42178.62
74 Ge # 3	205407.84	0.42	224564.78	91.5	60 - 125		204483.33	206175.20	205565.02
89 Y # 3	1228638.60	0.23	1302847.50	94.3	60 - 125		1231535.90	1226002.30	1228377.90
115 In # 3	1252210.30	1.07	1366177.60	91.7	60 - 125		1240594.30	1249191.50	1266845.00
159 Tb # 3	1770648.10	0.24	2052817.90	86.3	60 - 125		1767012.00	1769519.10	1775412.90
209 Bi # 3	1057522.80	0.70	1405468.50	75.2	60 - 125		1049201.90	1059821.80	1063544.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\131SMPL.D\131SMPL.D#
 Date Acquired: Aug 26 2014 11:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-3-b
 Misc Info: 3005 1/5
 Vial Number: 2409
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002668	0.002668	ug/l	111.58	100.00		6.67	10.00	0.00
11 B # 3	2.745	2.745	ug/l	3.11	1800.00		5740.99	5937.72	5924.38
23 Na # 1	1669	1669	ug/l	0.53	81000.00		5204461.00	5160782.00	5208237.00
24 Mg # 1	2242	2242	ug/l	0.27	81000.00		4817954.00	4803228.50	4813811.00
27 Al # 1	1.165	1.165	ug/l	6.93	81000.00		4283.92	4650.95	4337.28
39 K # 2	80.6	80.6	ug/l	0.82	81000.00		36816.34	37150.54	36976.78
40 Ca # 1	15450	15450	ug/l	0.35	81000.00		91179496.00	90788360.00	91211248.00
47 Ti # 3	0.1218	0.1218	ug/l	30.61	1620.00		220.01	266.68	190.01
51 V # 2	0.1676	0.1676	ug/l	2.61	1800.00		632.24	612.24	612.24
52 Cr # 2	0.05151	0.05151	ug/l	14.93	1800.00		427.79	465.57	465.57
55 Mn # 3	195	195	ug/l	0.69	1800.00		3470935.30	3469763.80	3489764.00
56 Fe # 1	0.8342	0.8342	ug/l	3.98	81000.00		10163.06	10613.33	10273.13
59 Co # 3	0.04212	0.04212	ug/l	8.73	1800.00		676.70	646.70	576.70
60 Ni # 2	0.4772	0.4772	ug/l	7.49	1800.00		522.24	585.57	590.02
63 Cu # 2	-0.0671	-0.0671	ug/l	2.50	1800.00		193.34	198.89	202.23
66 Zn # 3	0.2369	0.2369	ug/l	18.37	1800.00		1136.73	1076.73	963.38
75 As # 2	2.19	2.19	ug/l	2.31	100.00		719.68	693.68	719.35
78 Se # 1	-0.04269	-0.04269	ug/l	16.91	100.00		7.00	8.00	10.33
88 Sr # 3	40.7	40.7	ug/l	0.33	1800.00		985506.88	982777.69	979929.75
95 Mo # 3	5.301	5.301	ug/l	0.86	1800.00		19958.31	19934.94	20342.14
107 Ag # 3	-0.003979	-0.003979	ug/l	25.79	100.00		63.34	80.00	83.34
111 Cd # 3	0.007065	0.007065	ug/l	21.88	100.00		22.28	25.62	18.86
118 Sn # 3	-0.003725	-0.003725	ug/l	136.38	1800.00		626.70	633.36	696.70
121 Sb # 3	0.0348	0.0348	ug/l	13.21	100.00		293.34	346.68	370.02
137 Ba # 3	104.2	104.2	ug/l	0.71	1800.00		395884.63	395182.84	394462.16
202 Hg # 3	0.005332	0.005332	ug/l	101.18	5.00		116.33	146.67	122.33
205 Tl # 3	-0.0005794	-0.0005794	ug/l	128.17	20.00		143.34	170.01	180.01
208 Pb # 3	2.758	2.758	ug/l	0.87	1800.00		92537.96	92040.37	92929.02
232 Th # 3	0.04908	0.04908	ug/l	11.03	#VALUE!		2006.87	1730.16	1700.15
238 U # 3	0.01744	0.01744	ug/l	11.62	#VALUE!		543.36	680.04	610.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	395569.41	0.08	442436.88	89.4	60 - 125		395942.06	395370.50	395395.63
45 Sc # 1	397683.28	0.33	456299.72	87.2	60 - 125		399170.84	397151.66	396727.38
45 Sc # 3	691939.50	0.44	765061.25	90.4	60 - 125		688878.00	694987.19	691953.25
74 Ge # 1	137395.23	0.11	153441.28	89.5	60 - 125		137458.48	137510.84	137216.36
74 Ge # 2	41883.84	0.32	47804.94	87.6	60 - 125		41965.92	41955.90	41729.71
74 Ge # 3	207989.22	0.37	224564.78	92.6	60 - 125		208092.94	208707.36	207167.33
89 Y # 3	1242661.60	0.51	1302847.50	95.4	60 - 125		1249940.30	1238345.90	1239698.80
115 In # 3	1272191.50	0.65	1366177.60	93.1	60 - 125		1275693.90	1262707.10	1278174.00
159 Tb # 3	1793577.00	0.64	2052817.90	87.4	60 - 125		1780386.30	1801079.80	1799265.60
209 Bi # 3	1081354.60	0.45	1405468.50	76.9	60 - 125		1077914.60	1079276.80	1086872.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\132SMPL.D\132SMPL.D#
 Date Acquired: Aug 27 2014 12:01 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-4-b
 Misc Info: 3005 1/5
 Vial Number: 2410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006745	0.0006745	ug/l	161.01	100.00		3.33	0.00	3.33
11 B # 3	4.355	4.355	ug/l	6.44	1800.00		8281.98	8428.68	8111.88
23 Na # 1	6433	6433	ug/l	0.68	81000.00		20034936.00	20012062.00	20321606.00
24 Mg # 1	2918	2918	ug/l	0.26	81000.00		6375285.50	6337990.00	6412487.50
27 Al # 1	1.801	1.801	ug/l	10.38	81000.00		5657.70	6175.16	6629.71
39 K # 2	151.6	151.6	ug/l	0.55	81000.00		58949.13	59805.23	59403.76
40 Ca # 1	27430	27430	ug/l	0.26	81000.00		164997070.00	163407790.00	165626510.00
47 Ti # 3	0.1218	0.1218	ug/l	17.09	1620.00		233.34	246.68	226.68
51 V # 2	0.4278	0.4278	ug/l	4.17	1800.00		1216.72	1250.05	1300.06
52 Cr # 2	0.06066	0.06066	ug/l	10.86	1800.00		464.46	510.01	472.23
55 Mn # 3	1.478	1.478	ug/l	6.14	1800.00		28762.78	28695.99	27814.68
56 Fe # 1	0.7585	0.7585	ug/l	3.16	81000.00		9814.26	9839.59	10186.43
59 Co # 3	0.04648	0.04648	ug/l	13.97	1800.00		783.37	693.37	650.03
60 Ni # 2	0.1567	0.1567	ug/l	5.90	1800.00		227.78	213.34	212.23
63 Cu # 2	0.2899	0.2899	ug/l	3.22	1800.00		1274.50	1304.50	1233.39
66 Zn # 3	3.32	3.32	ug/l	4.33	1800.00		7264.94	7308.31	7298.32
75 As # 2	0.3243	0.3243	ug/l	6.13	100.00		118.00	124.33	110.00
78 Se # 1	0.003841	0.003841	ug/l	234.63	100.00		20.33	17.33	21.67
88 Sr # 3	63.09	63.09	ug/l	5.06	1800.00		1579269.10	1560660.00	1564829.10
95 Mo # 3	0.125	0.125	ug/l	9.02	1800.00		563.36	626.69	583.36
107 Ag # 3	-0.004856	-0.004856	ug/l	44.17	100.00		40.00	80.00	83.34
111 Cd # 3	0.0006003	0.0006003	ug/l	152.44	100.00		9.88	6.53	6.54
118 Sn # 3	-0.01379	-0.01379	ug/l	24.29	1800.00		603.36	560.02	606.70
121 Sb # 3	0.007902	0.007902	ug/l	14.25	100.00		100.00	116.67	106.67
137 Ba # 3	141.6	141.6	ug/l	3.93	1800.00		544075.50	547654.19	545055.13
202 Hg # 3	-0.01528	-0.01528	ug/l	36.96	5.00		59.33	88.34	65.33
205 Tl # 3	-0.001779	-0.001779	ug/l	17.11	20.00		143.34	133.34	140.00
208 Pb # 3	-0.01982	-0.01982	ug/l	7.06	1800.00		680.03	636.69	636.69
232 Th # 3	0.02782	0.02782	ug/l	3.54	#VALUE!		1096.74	1156.75	1236.75
238 U # 3	0.1445	0.1445	ug/l	3.51	#VALUE!		4884.27	5024.32	5234.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	407873.06	3.12	442436.88	92.2	60 - 125		398493.25	402785.94	422340.06
45 Sc # 1	404955.97	0.47	456299.72	88.7	60 - 125		405899.34	402782.66	406185.78
45 Sc # 3	725393.19	6.03	765061.25	94.8	60 - 125		699335.25	700956.94	775887.31
74 Ge # 1	139094.63	0.49	153441.28	90.7	60 - 125		138491.52	138955.22	139837.13
74 Ge # 2	42077.98	1.00	47804.94	88.0	60 - 125		41773.26	42559.42	41901.27
74 Ge # 3	213636.03	4.13	224564.78	95.1	60 - 125		209041.27	208069.69	223797.13
89 Y # 3	1281470.40	4.93	1302847.50	98.4	60 - 125		1241467.00	1248583.90	1354360.40
115 In # 3	1294311.50	3.93	1366177.60	94.7	60 - 125		1263613.80	1266339.00	1352981.60
159 Tb # 3	1844353.80	4.53	2052817.90	89.8	60 - 125		1791055.10	1801438.50	1940567.30
209 Bi # 3	1118013.40	6.52	1405468.50	79.5	60 - 125		1075488.40	1076354.60	1202197.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\133_CCV.D\133_CCV.D#
 Date Acquired: Aug 27 2014 12:09 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV 50/5000
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.51 ug/l	1.12	50.00	89.5 - 110		84628.70	85231.29	85117.25
11 B	94.06 ug/l	0.33	100.00	89.5 - 110		132140.50	130263.20	132798.06
23 Na	5238 ug/l	0.92	5000.00	89.5 - 110		16523098.00	16543363.00	16525141.00
24 Mg	5183 ug/l	1.35	5000.00	89.5 - 110		11358374.00	11400987.00	11476000.00
27 Al	537.7 ug/l	1.27	500.00	89.5 - 110		1400808.40	1406923.50	1412147.30
39 K	5050 ug/l	0.89	5000.00	89.5 - 110		1617168.30	1628449.80	1640113.80
40 Ca	5357 ug/l	0.80	5000.00	89.5 - 110		32464962.00	32504060.00	32318490.00
47 Ti	50.94 ug/l	2.51	50.00	89.5 - 110		53784.23	54412.71	54646.73
51 V	49.89 ug/l	1.04	50.00	89.5 - 110		123378.41	124582.89	125486.91
52 Cr	49.41 ug/l	0.48	50.00	89.5 - 110		149047.45	149083.39	150072.09
55 Mn	509.8 ug/l	0.62	500.00	89.5 - 110		9411440.00	9392426.00	9429939.00
56 Fe	5471 ug/l	1.30	5000.00	89.5 - 110		42998480.00	43249592.00	43347828.00
59 Co	49.91 ug/l	0.82	50.00	89.5 - 110		699960.19	693941.38	698689.81
60 Ni	50.93 ug/l	0.97	50.00	89.5 - 110		56579.22	57100.78	57437.36
63 Cu	49.5 ug/l	0.89	50.00	89.5 - 110		151281.73	152080.67	153566.97
66 Zn	48.4 ug/l	1.18	50.00	89.5 - 110		99002.05	99293.77	98449.65
75 As	50.73 ug/l	0.68	50.00	89.5 - 110		16559.48	16511.11	16743.65
78 Se	50.42 ug/l	0.27	50.00	89.5 - 110		12469.61	12455.94	12420.25
88 Sr	49.35 ug/l	0.90	50.00	89.5 - 110		1217755.40	1226385.50	1212533.30
95 Mo	49.84 ug/l	1.03	50.00	89.5 - 110		190899.69	191336.81	192206.27
107 Ag	48.19 ug/l	1.40	50.00	89.5 - 110		516704.22	518554.78	517323.59
111 Cd	48.06 ug/l	1.92	50.00	89.5 - 110		111743.72	111991.74	110766.95
118 Sn	48.43 ug/l	0.41	50.00	89.5 - 110		351642.13	351980.28	357675.03
121 Sb	47.89 ug/l	0.52	50.00	89.5 - 110		417490.53	415699.00	422904.41
137 Ba	48.57 ug/l	1.77	50.00	89.5 - 110		187551.73	188823.81	186945.44
202 Hg	2.494 ug/l	0.78	2.50	89.5 - 110		7242.33	7353.71	7425.42
205 Tl	9.28 ug/l	0.89	10.00	89.5 - 110		227213.38	229417.89	226698.77
208 Pb	46.18 ug/l	0.65	50.00	89.5 - 110		1544877.60	1532521.00	1554540.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	405038.09	1.01	442436.88	91.5	60 - 125		404765.25	401106.59	409242.41
45 Sc	408164.44	0.89	456299.72	89.5	60 - 125		412318.97	406536.81	405637.53
45 Sc	723047.56	1.85	765061.25	94.5	60 - 125		736799.56	710015.81	722327.25
74 Ge	142139.19	0.42	153441.28	92.6	60 - 125		142811.27	141931.97	141674.33
74 Ge	43020.17	0.37	47804.94	90.0	60 - 125		43154.22	42845.74	43060.55
74 Ge	215369.77	0.77	224564.78	95.9	60 - 125		214208.78	214624.86	217275.64
89 Y	1271075.40	0.54	1302847.50	97.6	60 - 125		1264124.40	1271383.00	1277718.80
115 In	1296913.40	1.36	1366177.60	94.9	60 - 125		1287233.50	1286244.00	1317262.50
159 Tb	1811778.30	0.50	2052817.90	88.3	60 - 125		1803018.80	1811298.10	1821018.10
209 Bi	1150175.50	1.24	1405468.50	81.8	60 - 125		1144252.00	1139890.10	1166384.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\134_CCB.D\134_CCB.D#
 Date Acquired: Aug 27 2014 12:16 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.008416	0.008416	ug/l	57.75	#VALUE!		16.67	6.67	23.33
11 B # 3	1.523	1.523	ug/l	14.42	#VALUE!		4593.98	4183.89	4040.51
23 Na # 1	-10.17	-10.17	ug/l	0.35	#VALUE!		53571.45	53785.37	53842.09
24 Mg # 1	0.2702	0.2702	ug/l	4.05	#VALUE!		1536.77	1573.44	1526.77
27 Al # 1	0.04773	0.04773	ug/l	56.40	#VALUE!		1636.78	1513.43	1600.11
39 K # 2	-10.97	-10.97	ug/l	3.34	#VALUE!		8485.42	8668.88	8428.77
40 Ca # 1	0.953	0.953	ug/l	12.46	#VALUE!		29256.84	28338.39	28218.23
47 Ti # 3	-0.04633	-0.04633	ug/l	46.64	#VALUE!		30.00	73.34	60.00
51 V # 2	-0.005032	-0.005032	ug/l	75.04	#VALUE!		202.23	193.34	211.11
52 Cr # 2	-0.01434	-0.01434	ug/l	50.48	#VALUE!		235.56	271.12	280.00
55 Mn # 3	0.03093	0.03093	ug/l	7.04	#VALUE!		1973.50	2000.17	1903.48
56 Fe # 1	0.9848	0.9848	ug/l	1.17	#VALUE!		11557.22	11577.21	11474.09
59 Co # 3	0.00095	0.00095	ug/l	100.17	#VALUE!		73.34	70.00	93.34
60 Ni # 2	-0.01668	-0.01668	ug/l	26.64	#VALUE!		33.33	24.44	26.67
63 Cu # 2	-0.08198	-0.08198	ug/l	4.08	#VALUE!		164.45	154.45	146.67
66 Zn # 3	-0.1057	-0.1057	ug/l	18.00	#VALUE!		373.34	440.02	366.68
75 As # 2	0.004889	0.004889	ug/l	125.18	#VALUE!		13.00	16.00	17.00
78 Se # 1	-0.02849	-0.02849	ug/l	50.65	#VALUE!		8.33	12.33	15.33
88 Sr # 3	0.002337	0.002337	ug/l	105.39	#VALUE!		276.68	190.01	163.34
95 Mo # 3	0.03369	0.03369	ug/l	33.78	#VALUE!		223.34	286.68	210.01
107 Ag # 3	-0.0003029	-0.0003029	ug/l	191.91	#VALUE!		116.67	120.00	110.00
111 Cd # 3	0.001624	0.001624	ug/l	239.04	#VALUE!		3.28	19.94	6.62
118 Sn # 3	0.004632	0.004632	ug/l	111.70	#VALUE!		763.37	693.37	703.37
121 Sb # 3	0.02053	0.02053	ug/l	16.61	#VALUE!		243.34	220.01	186.67
137 Ba # 3	0.004204	0.004204	ug/l	57.56	#VALUE!		56.67	60.00	43.33
202 Hg # 3	0.005695	0.005695	ug/l	64.95	#VALUE!		140.34	119.33	129.67
205 Tl # 3	-0.001507	-0.001507	ug/l	34.21	#VALUE!		156.67	133.34	136.67
208 Pb # 3	-0.02169	-0.02169	ug/l	4.53	#VALUE!		563.36	613.36	546.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	400183.13	0.39	442436.88	90.4	60 - 125		398731.34	401829.84	399988.19
45 Sc # 1	398653.28	0.46	456299.72	87.4	60 - 125		396537.13	399643.59	399779.09
45 Sc # 3	692539.06	0.46	765061.25	90.5	60 - 125		688874.75	694141.13	694601.38
74 Ge # 1	139315.81	0.63	153441.28	90.8	60 - 125		138488.05	140239.23	139220.17
74 Ge # 2	42301.84	0.87	47804.94	88.5	60 - 125		41882.28	42561.75	42461.47
74 Ge # 3	211402.09	0.64	224564.78	94.1	60 - 125		211016.58	212914.66	210275.03
89 Y # 3	1249243.50	0.70	1302847.50	95.9	60 - 125		1244940.60	1259240.30	1243549.80
115 In # 3	1286657.30	0.98	1366177.60	94.2	60 - 125		1286935.30	1273945.60	1299090.90
159 Tb # 3	1798387.00	0.43	2052817.90	87.6	60 - 125		1800493.30	1804814.40	1789853.50
209 Bi # 3	1163269.30	0.73	1405468.50	82.8	60 - 125		1153517.00	1169152.30	1167138.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\135SMPL.D\135SMPL.D#
 Date Acquired: Aug 27 2014 12:23 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-5-b
 Misc Info: 3005 1/5
 Vial Number: 2411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007139	0.0007139	ug/l	156.74	100.00		0.00	3.33	3.33
11 B # 3	8.123	8.123	ug/l	2.46	1800.00		13288.14	13318.13	12921.24
23 Na # 1	4511	4511	ug/l	0.91	81000.00		14353633.00	14455478.00	14367688.00
24 Mg # 1	3095	3095	ug/l	0.70	81000.00		6879342.00	6866426.50	6909012.50
27 Al # 1	11.01	11.01	ug/l	2.32	81000.00		30924.34	29854.58	30933.71
39 K # 2	148	148	ug/l	6.25	81000.00		58855.86	58952.72	59898.46
40 Ca # 1	12280	12280	ug/l	0.53	81000.00		74858488.00	74737904.00	75662496.00
47 Ti # 3	0.3322	0.3322	ug/l	16.74	1620.00		473.40	480.03	376.69
51 V # 2	0.534	0.534	ug/l	4.80	1800.00		1471.19	1584.53	1566.75
52 Cr # 2	0.1551	0.1551	ug/l	19.57	1800.00		801.14	704.46	810.02
55 Mn # 3	0.66	0.66	ug/l	0.75	1800.00		13108.29	13108.33	13185.01
56 Fe # 1	4.486	4.486	ug/l	8.69	81000.00		37841.98	43441.38	38279.92
59 Co # 3	0.01908	0.01908	ug/l	7.58	1800.00		343.35	306.68	316.68
60 Ni # 2	0.4021	0.4021	ug/l	9.21	1800.00		516.68	472.23	493.34
63 Cu # 2	0.07132	0.07132	ug/l	14.74	1800.00		616.68	622.24	635.57
66 Zn # 3	1.06	1.06	ug/l	5.37	1800.00		2626.93	2600.26	2790.29
75 As # 2	0.2935	0.2935	ug/l	6.15	100.00		112.67	115.67	100.33
78 Se # 1	0.05679	0.05679	ug/l	52.51	100.00		39.00	35.33	25.00
88 Sr # 3	51.98	51.98	ug/l	0.52	1800.00		1246237.10	1256644.50	1264322.10
95 Mo # 3	0.5714	0.5714	ug/l	2.20	1800.00		2230.19	2223.54	2303.55
107 Ag # 3	-0.00311	-0.00311	ug/l	54.08	100.00		63.34	96.67	93.34
111 Cd # 3	0.002001	0.002001	ug/l	239.88	100.00		22.84	2.84	6.16
118 Sn # 3	0.01078	0.01078	ug/l	41.63	1800.00		773.38	763.37	720.04
121 Sb # 3	0.03228	0.03228	ug/l	18.99	100.00		370.01	286.68	283.34
137 Ba # 3	24.35	24.35	ug/l	0.96	1800.00		91938.15	92196.00	91643.56
202 Hg # 3	-0.01214	-0.01214	ug/l	4.87	5.00		80.34	77.33	77.33
205 Tl # 3	-0.002725	-0.002725	ug/l	27.32	20.00		110.00	96.67	130.00
208 Pb # 3	-0.0118	-0.0118	ug/l	23.10	1800.00		913.37	813.37	973.38
232 Th # 3	0.07965	0.07965	ug/l	5.31	#VALUE!		2953.71	2907.04	2626.98
238 U # 3	0.199	0.199	ug/l	2.59	#VALUE!		6765.04	6738.34	6858.45

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	397897.88	0.48	442436.88	89.9	60 - 125		398551.34	395731.56	399410.72
45 Sc # 1	412252.13	0.88	456299.72	90.3	60 - 125		408652.06	412234.53	415869.81
45 Sc # 3	697547.44	0.32	765061.25	91.2	60 - 125		700078.19	696679.63	695884.38
74 Ge # 1	141542.14	0.24	153441.28	92.2	60 - 125		141160.48	141693.30	141772.67
74 Ge # 2	42843.68	4.51	47804.94	89.6	60 - 125		41907.95	45067.01	41556.06
74 Ge # 3	207900.08	0.38	224564.78	92.6	60 - 125		207726.39	208760.02	207213.83
89 Y # 3	1243415.30	0.55	1302847.50	95.4	60 - 125		1235973.40	1249571.40	1244700.90
115 In # 3	1266247.10	1.00	1366177.60	92.7	60 - 125		1252435.40	1277301.50	1269004.00
159 Tb # 3	1795150.60	1.13	2052817.90	87.4	60 - 125		1801739.10	1811290.80	1772421.90
209 Bi # 3	1091942.10	1.96	1405468.50	77.7	60 - 125		1115737.30	1085671.60	1074417.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\136SMPL.D\136SMPL.D#
 Date Acquired: Aug 27 2014 12:31 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-6-b
 Misc Info: 3005 1/5
 Vial Number: 2412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00132	0.00132	ug/l	7.22	100.00		3.33	3.33	3.33
11 B # 3	3.266	3.266	ug/l	12.82	1800.00		6674.65	6514.59	7008.09
23 Na # 1	2749	2749	ug/l	0.11	81000.00		8683405.00	8785289.00	8825680.00
24 Mg # 1	2397	2397	ug/l	0.64	81000.00		5268382.00	5286635.50	5370305.00
27 Al # 1	9.672	9.672	ug/l	2.09	81000.00		26850.60	27427.35	26479.08
39 K # 2	140.7	140.7	ug/l	1.37	81000.00		56040.38	55689.28	56157.40
40 Ca # 1	19890	19890	ug/l	0.32	81000.00		120278930.00	120854120.00	121807780.00
47 Ti # 3	0.247	0.247	ug/l	15.19	1620.00		380.01	413.35	293.34
51 V # 2	0.7424	0.7424	ug/l	3.49	1800.00		1931.23	2041.24	2095.69
52 Cr # 2	0.1258	0.1258	ug/l	4.54	1800.00		684.46	672.24	666.69
55 Mn # 3	2.006	2.006	ug/l	5.61	1800.00		37501.81	36823.84	38326.82
56 Fe # 1	4.061	4.061	ug/l	0.60	81000.00		35967.90	36601.06	36327.77
59 Co # 3	0.02784	0.02784	ug/l	6.61	1800.00		450.02	433.35	453.35
60 Ni # 2	0.2668	0.2668	ug/l	9.52	1800.00		303.34	352.23	360.01
63 Cu # 2	0.01039	0.01039	ug/l	73.00	1800.00		431.12	405.56	458.90
66 Zn # 3	0.2785	0.2785	ug/l	22.14	1800.00		1016.73	1253.42	1193.41
75 As # 2	0.4765	0.4765	ug/l	0.85	100.00		166.00	164.67	167.67
78 Se # 1	-0.03697	-0.03697	ug/l	21.38	100.00		8.00	10.00	12.00
88 Sr # 3	70	70	ug/l	6.87	1800.00		1678343.80	1672151.40	1722268.10
95 Mo # 3	0.6817	0.6817	ug/l	7.76	1800.00		2586.94	2673.62	2733.62
107 Ag # 3	-0.003249	-0.003249	ug/l	20.16	100.00		80.00	96.67	73.34
111 Cd # 3	0.001826	0.001826	ug/l	246.60	100.00		19.43	12.75	-0.60
118 Sn # 3	-0.002487	-0.002487	ug/l	238.20	1800.00		676.70	650.03	646.70
121 Sb # 3	0.01779	0.01779	ug/l	13.97	100.00		200.01	216.68	156.67
137 Ba # 3	127.8	127.8	ug/l	7.15	1800.00		477129.16	478825.00	490004.78
202 Hg # 3	-0.009768	-0.009768	ug/l	18.21	5.00		92.00	87.00	78.67
205 Tl # 3	-0.002759	-0.002759	ug/l	27.05	20.00		93.34	120.00	123.34
208 Pb # 3	-0.01745	-0.01745	ug/l	11.47	1800.00		746.70	673.36	733.37
232 Th # 3	0.03354	0.03354	ug/l	12.84	#VALUE!		1390.11	1270.09	1340.10
238 U # 3	0.2119	0.2119	ug/l	7.39	#VALUE!		7355.31	7251.95	7271.95

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	406617.44	5.10	442436.88	91.9	60 - 125		401329.06	429505.66	389017.59
45 Sc # 1	410379.34	0.74	456299.72	89.9	60 - 125		406966.06	411453.38	412718.66
45 Sc # 3	706824.63	7.30	765061.25	92.4	60 - 125		703409.25	760033.69	657030.94
74 Ge # 1	139943.52	1.15	153441.28	91.2	60 - 125		138097.59	141104.38	140628.58
74 Ge # 2	42082.82	1.25	47804.94	88.0	60 - 125		41678.52	41893.50	42676.45
74 Ge # 3	210618.83	3.38	224564.78	93.8	60 - 125		211151.22	217460.17	203245.08
89 Y # 3	1246312.40	5.32	1302847.50	95.7	60 - 125		1245774.50	1312925.10	1180237.80
115 In # 3	1269047.80	6.06	1366177.60	92.9	60 - 125		1257621.10	1350973.80	1198548.10
159 Tb # 3	1810280.40	4.67	2052817.90	88.2	60 - 125		1814010.40	1892873.10	1723957.60
209 Bi # 3	1105631.80	7.26	1405468.50	78.7	60 - 125		1085207.90	1194147.60	1037540.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\137SMPL.D\137SMPL.D#
 Date Acquired: Aug 27 2014 12:38 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-7-b
 Misc Info: 3005 1/5
 Vial Number: 2501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babha.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00324	0.00324	ug/l	59.26	100.00		10.00	6.67	3.33
11 B # 3	2.679	2.679	ug/l	4.48	1800.00		5967.73	5750.98	5977.75
23 Na # 1	2060	2060	ug/l	11.54	81000.00		6240083.00	6627775.50	6587073.00
24 Mg # 1	2469	2469	ug/l	11.36	81000.00		5170930.00	5489126.00	5481638.50
27 Al # 1	1.215	1.215	ug/l	9.09	81000.00		5187.15	4427.31	4337.30
39 K # 2	232.2	232.2	ug/l	2.04	81000.00		83805.57	85443.09	84163.56
40 Ca # 1	17950	17950	ug/l	11.94	81000.00		102668340.00	110289370.00	109270280.00
47 Ti # 3	0.1591	0.1591	ug/l	5.09	1620.00		276.68	260.01	266.68
51 V # 2	0.185	0.185	ug/l	6.83	1800.00		637.80	693.35	657.80
52 Cr # 2	0.06126	0.06126	ug/l	9.68	1800.00		475.57	498.90	474.46
55 Mn # 3	98.47	98.47	ug/l	1.32	1800.00		1746697.00	1784121.30	1778215.40
56 Fe # 1	2.262	2.262	ug/l	11.92	81000.00		21442.93	21970.23	21656.45
59 Co # 3	0.05069	0.05069	ug/l	6.87	1800.00		763.37	706.70	793.37
60 Ni # 2	0.4262	0.4262	ug/l	4.46	1800.00		532.24	492.23	511.12
63 Cu # 2	-0.05079	-0.05079	ug/l	25.66	1800.00		267.78	201.11	274.45
66 Zn # 3	0.5434	0.5434	ug/l	7.16	1800.00		1686.79	1596.79	1733.47
75 As # 2	1.701	1.701	ug/l	2.99	100.00		547.01	571.34	552.01
78 Se # 1	-0.03475	-0.03475	ug/l	54.99	100.00		5.67	11.33	14.33
88 Sr # 3	50.9	50.9	ug/l	0.56	1800.00		1230009.60	1244950.40	1242261.10
95 Mo # 3	2.438	2.438	ug/l	2.06	1800.00		9082.55	9476.12	9392.72
107 Ag # 3	-0.00295	-0.00295	ug/l	105.05	100.00		50.00	96.67	113.34
111 Cd # 3	0.004665	0.004665	ug/l	72.54	100.00		21.34	21.25	7.93
118 Sn # 3	-0.007037	-0.007037	ug/l	109.62	1800.00		663.37	660.03	566.69
121 Sb # 3	0.02733	0.02733	ug/l	15.63	100.00		233.34	280.01	306.68
137 Ba # 3	126.9	126.9	ug/l	0.04	1800.00		481585.63	483061.44	482570.66
202 Hg # 3	-0.004921	-0.004921	ug/l	39.42	5.00		106.00	99.67	94.00
205 Tl # 3	-0.005037	-0.005037	ug/l	7.94	20.00		46.67	66.67	56.67
208 Pb # 3	1.949	1.949	ug/l	1.95	1800.00		65034.40	67963.60	66012.37
232 Th # 3	0.02189	0.02189	ug/l	6.03	#VALUE!		940.06	1000.07	980.06
238 U # 3	0.1618	0.1618	ug/l	5.94	#VALUE!		5744.57	5521.17	5834.65

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	403811.94	0.64	442436.88	91.3	60 - 125		401830.03	406759.94	402845.81
45 Sc # 1	406454.47	8.41	456299.72	89.1	60 - 125		439898.09	371560.03	407905.19
45 Sc # 3	703134.75	0.66	765061.25	91.9	60 - 125		705703.00	705889.88	697811.38
74 Ge # 1	140444.39	5.38	153441.28	91.5	60 - 125		148138.63	133034.70	140159.86
74 Ge # 2	42006.38	1.11	47804.94	87.9	60 - 125		41766.57	41710.85	42541.73
74 Ge # 3	209561.77	0.50	224564.78	93.3	60 - 125		209954.03	210356.06	208375.20
89 Y # 3	1252883.50	0.31	1302847.50	96.2	60 - 125		1250018.30	1251321.50	1257310.80
115 In # 3	1275348.60	0.19	1366177.60	93.4	60 - 125		1272606.90	1277174.60	1276264.50
159 Tb # 3	1809690.10	0.78	2052817.90	88.2	60 - 125		1811503.30	1822755.10	1794812.30
209 Bi # 3	1127806.60	3.27	1405468.50	80.2	60 - 125		1141486.90	1155906.30	1086026.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\138SMPL.D\138SMPL.D#
 Date Acquired: Aug 27 2014 12:45 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-8-b
 Misc Info: 3005 1/5
 Vial Number: 2502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.003915	0.003915	ug/l	113.18	100.00		3.33	3.33	16.67
11 B # 3	3.376	3.376	ug/l	2.32	1800.00		6868.02	6694.65	6764.70
23 Na # 1	2271	2271	ug/l	21.40	81000.00		6983258.00	7208405.00	7124121.50
24 Mg # 1	2005	2005	ug/l	21.26	81000.00		4259990.00	4409907.50	4374974.00
27 Al # 1	1.698	1.698	ug/l	27.20	81000.00		5827.76	5907.74	5814.38
39 K # 2	307.6	307.6	ug/l	0.36	81000.00		107990.28	107765.66	108553.27
40 Ca # 1	19130	19130	ug/l	20.84	81000.00		112412930.00	115290580.00	114453920.00
47 Ti # 3	0.127	0.127	ug/l	22.38	1620.00		266.68	216.67	216.67
51 V # 2	0.3493	0.3493	ug/l	5.19	1800.00		1071.15	1100.04	1017.82
52 Cr # 2	0.06944	0.06944	ug/l	5.18	1800.00		516.68	497.79	507.79
55 Mn # 3	27.1	27.1	ug/l	0.82	1800.00		490381.34	488062.34	490102.50
56 Fe # 1	0.5969	0.5969	ug/l	28.26	81000.00		9107.82	8312.11	8638.91
59 Co # 3	0.02274	0.02274	ug/l	9.00	1800.00		396.68	346.68	383.35
60 Ni # 2	0.23	0.23	ug/l	8.03	1800.00		285.56	285.56	322.23
63 Cu # 2	0.01603	0.01603	ug/l	53.66	1800.00		417.79	455.57	471.12
66 Zn # 3	0.991	0.991	ug/l	2.24	1800.00		2596.94	2540.26	2556.92
75 As # 2	0.587	0.587	ug/l	5.10	100.00		194.33	196.34	213.00
78 Se # 1	-0.03605	-0.03605	ug/l	11.46	100.00		10.67	9.67	10.33
88 Sr # 3	62.96	62.96	ug/l	0.55	1800.00		1521187.00	1520486.00	1519469.50
95 Mo # 3	1.667	1.667	ug/l	3.27	1800.00		6167.88	6578.05	6421.33
107 Ag # 3	-0.003559	-0.003559	ug/l	35.29	100.00		66.67	80.00	93.34
111 Cd # 3	0.003013	0.003013	ug/l	73.71	100.00		8.64	18.55	11.92
118 Sn # 3	0.005153	0.005153	ug/l	108.91	1800.00		746.71	670.04	730.04
121 Sb # 3	0.03066	0.03066	ug/l	9.51	100.00		320.01	310.01	273.34
137 Ba # 3	96.62	96.62	ug/l	0.55	1800.00		364497.13	365327.03	369275.03
202 Hg # 3	-0.01038	-0.01038	ug/l	15.65	5.00		78.67	88.33	82.33
205 Tl # 3	-0.003262	-0.003262	ug/l	47.12	20.00		133.34	103.34	60.00
208 Pb # 3	0.1349	0.1349	ug/l	6.19	1800.00		6017.29	5527.24	5657.25
232 Th # 3	0.01561	0.01561	ug/l	5.21	#VALUE!		760.04	743.38	736.71
238 U # 3	0.3021	0.3021	ug/l	4.87	#VALUE!		10623.99	10160.34	10443.93

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	399148.44	0.43	442436.88	90.2	60 - 125		397478.09	399035.63	400931.56
45 Sc # 1	413661.91	20.23	456299.72	90.7	60 - 125		503421.34	337738.31	399826.03
45 Sc # 3	699761.75	0.21	765061.25	91.5	60 - 125		698501.88	701398.19	699385.19
74 Ge # 1	141457.50	14.82	153441.28	92.2	60 - 125		163508.30	121768.27	139095.95
74 Ge # 2	42029.38	0.38	47804.94	87.9	60 - 125		41864.48	42041.66	42182.00
74 Ge # 3	210186.56	0.58	224564.78	93.6	60 - 125		208919.39	211342.11	210298.19
89 Y # 3	1242940.90	0.52	1302847.50	95.4	60 - 125		1236163.60	1249103.10	1243556.30
115 In # 3	1272038.60	0.15	1366177.60	93.1	60 - 125		1270794.10	1271121.80	1274200.30
159 Tb # 3	1788809.80	0.38	2052817.90	87.1	60 - 125		1780921.30	1792418.80	1793089.40
209 Bi # 3	1105190.40	2.72	1405468.50	78.6	60 - 125		1084490.90	1139695.60	1091384.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\139SMPL.D\139SMPL.D#
 Date Acquired: Aug 27 2014 12:53 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104438-i-9-b
 Misc Info: 3005 1/5
 Vial Number: 2503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.004511	0.004511	ug/l	88.23	100.00		3.33	16.67	6.67
11 B #3	5.509	5.509	ug/l	2.32	1800.00		9625.97	9902.75	9849.36
23 Na #1	8740	8740	ug/l	0.70	81000.00		27287408.00	27635598.00	28013472.00
24 Mg #1	3164	3164	ug/l	0.37	81000.00		6932230.00	7016315.00	7043752.50
27 Al #1	37.85	37.85	ug/l	3.29	81000.00		99311.88	104388.27	98833.06
39 K #2	313.9	313.9	ug/l	1.09	81000.00		109097.17	108864.86	111524.85
40 Ca #1	22800	22800	ug/l	0.63	81000.00		137653440.00	139305920.00	138646210.00
47 Ti #3	0.5283	0.5283	ug/l	15.82	1620.00		550.03	710.04	713.38
51 V #2	0.5176	0.5176	ug/l	4.91	1800.00		1461.18	1522.30	1424.51
52 Cr #2	0.1654	0.1654	ug/l	10.07	1800.00		822.25	806.69	736.69
55 Mn #3	0.5302	0.5302	ug/l	2.02	1800.00		10906.80	10670.03	10943.47
56 Fe #1	13.29	13.29	ug/l	0.48	81000.00		109382.13	109116.72	109802.08
59 Co #3	0.03416	0.03416	ug/l	8.04	1800.00		516.69	570.03	493.35
60 Ni #2	0.2747	0.2747	ug/l	6.25	1800.00		367.79	326.67	343.34
63 Cu #2	0.04762	0.04762	ug/l	25.33	1800.00		512.23	575.57	536.68
66 Zn #3	0.4902	0.4902	ug/l	3.56	1800.00		1593.45	1533.44	1546.78
75 As #2	0.2054	0.2054	ug/l	7.99	100.00		73.33	81.33	82.67
78 Se #1	0.01269	0.01269	ug/l	107.80	100.00		23.00	24.67	18.33
88 Sr #3	79.86	79.86	ug/l	0.42	1800.00		1930827.30	1948190.00	1921494.50
95 Mo #3	0.5604	0.5604	ug/l	4.56	1800.00		2176.87	2336.89	2143.52
107 Ag #3	-0.004076	-0.004076	ug/l	22.89	100.00		80.00	63.34	80.00
111 Cd #3	0.00196	0.00196	ug/l	86.74	100.00		6.19	12.82	12.86
118 Sn #3	-0.01447	-0.01447	ug/l	55.54	1800.00		510.02	606.70	606.69
121 Sb #3	0.03653	0.03653	ug/l	13.83	100.00		310.01	396.68	346.68
137 Ba #3	64.95	64.95	ug/l	1.18	1800.00		246321.80	244130.00	247549.70
202 Hg #3	-0.02022	-0.02022	ug/l	19.16	5.00		53.00	45.67	68.00
205 Tl #3	-0.002991	-0.002991	ug/l	27.60	20.00		96.67	130.00	93.34
208 Pb #3	-0.006208	-0.006208	ug/l	22.20	1800.00		1123.39	1110.06	1046.72
232 Th #3	0.04188	0.04188	ug/l	7.69	#VALUE!		1653.48	1546.79	1616.81
238 U #3	0.6247	0.6247	ug/l	1.47	#VALUE!		21044.98	21846.04	21365.39

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	404199.09	0.30	442436.88	91.4	60 - 125		405605.16	403487.69	403504.38
45 Sc #1	409953.56	0.63	456299.72	89.8	60 - 125		407622.63	409519.44	412718.59
45 Sc #3	711406.75	2.49	765061.25	93.0	60 - 125		701010.06	731860.69	701349.44
74 Ge #1	139696.41	0.57	153441.28	91.0	60 - 125		138780.25	140120.27	140188.69
74 Ge #2	41942.51	0.84	47804.94	87.7	60 - 125		42090.64	41538.27	42198.62
74 Ge #3	208276.33	0.41	224564.78	92.7	60 - 125		208130.52	209195.02	207503.44
89 Y #3	1246147.80	0.87	1302847.50	95.6	60 - 125		1250040.90	1254530.40	1233872.10
115 In #3	1270604.60	0.54	1366177.60	93.0	60 - 125		1274691.80	1274482.60	1262639.60
159 Tb #3	1807901.90	0.53	2052817.90	88.1	60 - 125		1797579.40	1809857.60	1816268.30
209 Bi #3	1100454.10	3.31	1405468.50	78.3	60 - 125		1071841.30	1141469.80	1088051.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\140_QCS.D\140_QCS.D#
 Date Acquired: Aug 27 2014 01:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	8.52	0.10 69.5 - 130	
11 B	18.27 ug/l	1.26	20.00 69.5 - 130	
23 Na	47.17 ug/l	10.08	50.00 69.5 - 130	
24 Mg	58.11 ug/l	6.70	50.00 69.5 - 130	
27 Al	11.58 ug/l	6.99	10.00 69.5 - 130	
39 K	37.91 ug/l	3.82	50.00 69.5 - 130	
40 Ca	61.30 ug/l	6.97	50.00 69.5 - 130	
47 Ti	0.91 ug/l	3.13	1.00 69.5 - 130	
51 V	0.94 ug/l	2.36	1.00 69.5 - 130	
52 Cr	0.97 ug/l	2.97	1.00 69.5 - 130	
55 Mn	0.99 ug/l	1.86	1.00 69.5 - 130	
56 Fe	23.85 ug/l	6.62	20.00 69.5 - 130	
59 Co	0.10 ug/l	4.07	0.10 69.5 - 130	
60 Ni	0.97 ug/l	0.29	1.00 69.5 - 130	
63 Cu	0.88 ug/l	5.02	1.00 69.5 - 130	
66 Zn	3.71 ug/l	2.06	4.00 69.5 - 130	
75 As	0.49 ug/l	3.75	0.50 69.5 - 130	
78 Se	0.42 ug/l	4.42	0.50 69.5 - 130	
88 Sr	0.20 ug/l	2.81	0.20 69.5 - 130	
95 Mo	0.95 ug/l	5.58	1.00 69.5 - 130	
107 Ag	0.20 ug/l	4.21	0.20 69.5 - 130	
111 Cd	0.09 ug/l	8.42	0.10 69.5 - 130	
118 Sn	0.90 ug/l	3.28	1.00 69.5 - 130	
121 Sb	0.90 ug/l	1.96	1.00 69.5 - 130	
137 Ba	0.95 ug/l	2.23	1.00 69.5 - 130	
202 Hg	0.12 ug/l	2.52	0.16 69.5 - 130	
205 Tl	0.18 ug/l	2.18	0.20 69.5 - 130	
208 Pb	0.25 ug/l	2.23	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	408034.41	0.44	442436.88	92.2	60 - 125	
45 Sc	391990.84	5.90	456299.72	85.9	60 - 125	
45 Sc	707309.38	0.15	765061.25	92.5	60 - 125	
74 Ge	139049.42	3.32	153441.28	90.6	60 - 125	
74 Ge	43164.97	0.17	47804.94	90.3	60 - 125	
74 Ge	213129.41	0.46	224564.78	94.9	60 - 125	
89 Y	1268285.90	0.26	1302847.50	97.3	60 - 125	
115 In	1309887.90	0.13	1366177.60	95.9	60 - 125	
159 Tb	1809096.60	0.57	2052817.90	88.1	60 - 125	
209 Bi	1172725.80	0.37	1405468.50	83.4	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\141_CCV.D\141_CCV.D#
 Date Acquired: Aug 27 2014 01:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.91 ug/l	0.38	50.00	89.5 - 110		87065.66	87718.77	86178.69
11 B	94.95 ug/l	0.57	100.00	89.5 - 110		134530.30	135275.20	135029.41
23 Na	5216 ug/l	0.23	5000.00	89.5 - 110		17036010.00	17036690.00	17086130.00
24 Mg	5176 ug/l	0.33	5000.00	89.5 - 110		11774009.00	11803451.00	11841230.00
27 Al	532.9 ug/l	0.65	500.00	89.5 - 110		1444269.50	1429583.00	1458471.90
39 K	5043 ug/l	0.45	5000.00	89.5 - 110		1662353.90	1667812.90	1688285.90
40 Ca	5290 ug/l	0.53	5000.00	89.5 - 110		33313986.00	33123052.00	33084086.00
47 Ti	51.9 ug/l	1.03	50.00	89.5 - 110		55458.74	56458.53	55990.37
51 V	49.62 ug/l	0.38	50.00	89.5 - 110		127058.07	127494.27	127478.81
52 Cr	49.06 ug/l	0.74	50.00	89.5 - 110		151357.88	153434.50	153046.17
55 Mn	505.2 ug/l	0.90	500.00	89.5 - 110		9493095.00	9623727.00	9490315.00
56 Fe	5379 ug/l	0.29	5000.00	89.5 - 110		43869028.00	43929976.00	44199472.00
59 Co	49.46 ug/l	0.64	50.00	89.5 - 110		704017.69	710985.06	705966.63
60 Ni	50.62 ug/l	1.23	50.00	89.5 - 110		58241.96	58847.28	57848.51
63 Cu	49.05 ug/l	1.02	50.00	89.5 - 110		155246.14	156207.58	154257.03
66 Zn	47.79 ug/l	0.17	50.00	89.5 - 110		100134.59	99608.46	99953.95
75 As	50.44 ug/l	0.80	50.00	89.5 - 110		16951.51	17069.62	16925.82
78 Se	50.12 ug/l	0.20	50.00	89.5 - 110		12738.46	12691.76	12725.78
88 Sr	48.84 ug/l	0.27	50.00	89.5 - 110		1242939.90	1242575.40	1234356.30
95 Mo	50.33 ug/l	1.16	50.00	89.5 - 110		195505.31	197519.63	193018.25
107 Ag	48.45 ug/l	1.07	50.00	89.5 - 110		523892.38	528563.81	524243.69
111 Cd	48.38 ug/l	0.94	50.00	89.5 - 110		113195.00	113641.16	113356.61
118 Sn	48.65 ug/l	0.92	50.00	89.5 - 110		358400.72	359572.94	358875.97
121 Sb	47.9 ug/l	0.86	50.00	89.5 - 110		422645.41	423632.81	422657.31
137 Ba	48.61 ug/l	1.51	50.00	89.5 - 110		188253.47	190703.92	190526.27
202 Hg	2.493 ug/l	1.38	2.50	89.5 - 110		7497.77	7418.40	7471.43
205 Tl	9.194 ug/l	0.95	10.00	89.5 - 110		229085.83	228768.02	230700.56
208 Pb	46.16 ug/l	1.02	50.00	89.5 - 110		1570930.00	1565004.00	1572742.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	411094.19	0.52	442436.88	92.9	60 - 125		411603.94	412919.06	408759.53
45 Sc	422789.09	0.35	456299.72	92.7	60 - 125		422932.66	421249.91	424184.59
45 Sc	731487.13	0.22	765061.25	95.6	60 - 125		733076.56	731460.63	729924.13
74 Ge	146082.39	0.31	153441.28	95.2	60 - 125		146599.36	145764.11	145883.69
74 Ge	44251.25	0.41	47804.94	92.6	60 - 125		44166.62	44128.77	44458.37
74 Ge	220234.63	0.17	224564.78	98.1	60 - 125		220655.28	220014.50	220034.11
89 Y	1306525.90	0.36	1302847.50	100.3	60 - 125		1311706.50	1305165.40	1302705.60
115 In	1310059.60	0.82	1366177.60	95.9	60 - 125		1321890.40	1307292.80	1300995.90
159 Tb	1842637.50	0.84	2052817.90	89.8	60 - 125		1826042.50	1856515.00	1845354.80
209 Bi	1161665.90	0.89	1405468.50	82.7	60 - 125		1171321.50	1150803.00	1162872.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\142_CCB.D\142_CCB.D#
 Date Acquired: Aug 27 2014 01:15 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.004417	0.004417	ug/l	49.45	#VALUE!		6.67	13.33	6.67
11 B #3	1.45	1.45	ug/l	2.76	#VALUE!		4237.24	4290.58	4357.26
23 Na #1	-10.5	-10.5	ug/l	1.59	#VALUE!		55660.85	54738.24	54330.22
24 Mg #1	0.3084	0.3084	ug/l	6.64	#VALUE!		1710.12	1736.79	1640.12
27 Al #1	0.06428	0.06428	ug/l	39.98	#VALUE!		1640.11	1770.14	1670.13
39 K #2	-11.45	-11.45	ug/l	0.27	#VALUE!		8678.85	8778.99	8718.95
40 Ca #1	0.9656	0.9656	ug/l	6.27	#VALUE!		30358.19	29567.04	29697.13
47 Ti #3	-0.07458	-0.07458	ug/l	7.12	#VALUE!		30.00	30.00	20.00
51 V #2	-0.004016	-0.004016	ug/l	192.85	#VALUE!		205.56	236.67	197.78
52 Cr #2	-0.02468	-0.02468	ug/l	21.94	#VALUE!		226.67	236.67	260.00
55 Mn #3	0.02963	0.02963	ug/l	6.31	#VALUE!		1933.49	1996.84	2016.84
56 Fe #1	1.11	1.11	ug/l	1.01	#VALUE!		13128.27	13068.21	12881.43
59 Co #3	0.0003358	0.0003358	ug/l	77.04	#VALUE!		70.00	76.67	70.00
60 Ni #2	-0.01611	-0.01611	ug/l	22.37	#VALUE!		34.44	28.89	26.67
63 Cu #2	-0.08997	-0.08997	ug/l	5.16	#VALUE!		123.33	153.34	133.34
66 Zn #3	-0.1054	-0.1054	ug/l	7.05	#VALUE!		386.68	403.35	420.02
75 As #2	0.003987	0.003987	ug/l	126.36	#VALUE!		14.33	17.67	15.00
78 Se #1	-0.02677	-0.02677	ug/l	27.40	#VALUE!		12.33	15.00	11.33
88 Sr #3	0.002719	0.002719	ug/l	61.68	#VALUE!		256.68	240.01	180.01
95 Mo #3	0.0388	0.0388	ug/l	22.13	#VALUE!		260.01	236.68	300.01
107 Ag #3	0.0006699	0.0006699	ug/l	181.37	#VALUE!		133.34	140.00	113.34
111 Cd #3	0.001504	0.001504	ug/l	93.22	#VALUE!		13.28	6.61	9.93
118 Sn #3	0.005695	0.005695	ug/l	153.54	#VALUE!		716.71	820.05	696.70
121 Sb #3	0.02021	0.02021	ug/l	0.42	#VALUE!		220.01	220.01	216.67
137 Ba #3	0.00161	0.00161	ug/l	211.99	#VALUE!		56.67	30.00	46.67
202 Hg #3	0.004522	0.004522	ug/l	9.02	#VALUE!		131.00	128.00	127.67
205 Tl #3	-0.002472	-0.002472	ug/l	37.79	#VALUE!		116.67	146.67	100.00
208 Pb #3	-0.02365	-0.02365	ug/l	6.58	#VALUE!		463.35	536.69	556.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	411789.59	0.40	442436.88	93.1	60 - 125		412191.34	409988.44	413189.06
45 Sc #1	415231.84	0.30	456299.72	91.0	60 - 125		416314.19	415507.94	413873.47
45 Sc #3	720678.81	1.36	765061.25	94.2	60 - 125		714893.50	731965.38	715177.50
74 Ge #1	144657.09	0.49	153441.28	94.3	60 - 125		144878.27	145222.95	143870.08
74 Ge #2	44070.44	0.51	47804.94	92.2	60 - 125		43840.22	44285.78	44085.31
74 Ge #3	216519.69	0.49	224564.78	96.4	60 - 125		215303.48	217272.89	216982.69
89 Y #3	1285765.30	0.78	1302847.50	98.7	60 - 125		1275855.90	1285573.10	1295866.60
115 In #3	1316128.30	0.63	1366177.60	96.3	60 - 125		1323265.00	1318104.00	1307015.80
159 Tb #3	1833579.50	0.79	2052817.90	89.3	60 - 125		1845816.00	1837210.60	1817712.00
209 Bi #3	1183435.30	0.56	1405468.50	84.2	60 - 125		1190719.10	1177760.60	1181826.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\143SMPL.D\143SMPL.D#
 Date Acquired: Aug 27 2014 09:56 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.009602	0.009602	ug/l	11.15	100.00		20.00	20.00	16.67
11 B # 3	-0.4359	-0.4359	ug/l	7.94	1800.00		1746.79	1753.46	1673.46
23 Na # 1	-1.605	-1.605	ug/l	4.92	81000.00		90364.31	89922.27	89945.88
24 Mg # 1	6.87	6.87	ug/l	2.54	81000.00		17885.35	17268.17	17998.76
27 Al # 1	8.168	8.168	ug/l	1.03	81000.00		25490.79	25066.98	24793.25
39 K # 2	-6.404	-6.404	ug/l	4.03	81000.00		10863.40	10850.10	10853.36
40 Ca # 1	11.46	11.46	ug/l	0.82	81000.00		101852.91	102721.39	101766.06
47 Ti # 3	0.0993	0.0993	ug/l	2.07	1620.00		220.01	226.67	226.68
51 V # 2	0.01916	0.01916	ug/l	14.05	1800.00		287.78	290.00	276.67
52 Cr # 2	0.02199	0.02199	ug/l	18.35	1800.00		390.01	401.12	417.79
55 Mn # 3	0.5702	0.5702	ug/l	0.97	1800.00		12864.75	12551.22	12691.30
56 Fe # 1	18.46	18.46	ug/l	0.13	81000.00		165331.38	165038.75	163721.55
59 Co # 3	0.01307	0.01307	ug/l	6.39	1800.00		276.68	266.68	253.34
60 Ni # 2	0.05167	0.05167	ug/l	8.56	1800.00		117.78	111.11	108.89
63 Cu # 2	-0.05917	-0.05917	ug/l	7.07	1800.00		234.45	237.78	260.00
66 Zn # 3	0.007385	0.007385	ug/l	37.92	1800.00		666.70	670.03	673.36
75 As # 2	0.01275	0.01275	ug/l	56.16	100.00		17.67	18.33	22.33
78 Se # 1	-0.04922	-0.04922	ug/l	14.25	100.00		9.33	5.67	8.33
88 Sr # 3	0.04095	0.04095	ug/l	9.27	1800.00		1176.74	1313.42	1133.40
95 Mo # 3	0.0644	0.0644	ug/l	13.16	1800.00		406.68	380.02	340.01
107 Ag # 3	-0.0004369	-0.0004369	ug/l	357.98	100.00		100.00	130.00	130.00
111 Cd # 3	0.007357	0.007357	ug/l	29.24	100.00		23.24	29.92	19.93
118 Sn # 3	-0.04829	-0.04829	ug/l	6.28	1800.00		333.35	376.68	353.35
121 Sb # 3	0.004186	0.004186	ug/l	9.76	100.00		83.34	76.67	76.67
137 Ba # 3	0.06002	0.06002	ug/l	13.37	1800.00		310.01	286.68	246.68
202 Hg # 3	-0.02365	-0.02365	ug/l	7.63	5.00		51.34	41.00	48.00
205 Tl # 3	-0.002833	-0.002833	ug/l	17.22	20.00		116.67	100.00	123.34
208 Pb # 3	0.0006051	0.0006051	ug/l	414.48	1800.00		1306.73	1456.74	1300.07
232 Th # 3	0.008128	0.008128	ug/l	22.07	#VALUE!		493.36	606.70	510.03
238 U # 3	0.007738	0.007738	ug/l	5.20	#VALUE!		320.01	320.01	296.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	429069.97	0.36	442436.88	97.0	60 - 125		428124.59	428230.97	430854.38
45 Sc # 1	448773.63	0.46	456299.72	98.4	60 - 125		450664.13	449064.78	446592.03
45 Sc # 3	766558.19	1.62	765061.25	100.2	60 - 125		754959.38	765053.50	779661.63
74 Ge # 1	155104.66	0.16	153441.28	101.1	60 - 125		155383.33	154971.94	154958.70
74 Ge # 2	46077.59	0.75	47804.94	96.4	60 - 125		45727.11	46420.99	46084.67
74 Ge # 3	228963.44	0.84	224564.78	102.0	60 - 125		229720.95	226775.17	230394.16
89 Y # 3	1315461.90	0.29	1302847.50	101.0	60 - 125		1314413.00	1312263.80	1319709.00
115 In # 3	1352616.40	0.45	1366177.60	99.0	60 - 125		1355225.90	1345642.90	1356980.30
159 Tb # 3	1854127.30	0.21	2052817.90	90.3	60 - 125		1852765.00	1858471.90	1851145.00
209 Bi # 3	1186795.50	0.53	1405468.50	84.4	60 - 125		1186882.50	1180517.50	1192986.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\144SMPL.D\144SMPL.D#
 Date Acquired: Aug 27 2014 10:03 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.006826	0.006826	ug/l	71.54	100.00		3.33	20.00	16.67
11 B # 3	-0.4937	-0.4937	ug/l	9.59	1800.00		1650.12	1530.10	1586.77
23 Na # 1	-2.19	-2.19	ug/l	2.84	81000.00		84243.50	84796.38	85020.35
24 Mg # 1	6.753	6.753	ug/l	3.61	81000.00		17378.26	16444.12	16477.43
27 Al # 1	8.134	8.134	ug/l	0.29	81000.00		23952.13	24119.08	24115.64
39 K # 2	-7.03	-7.03	ug/l	49.59	81000.00		10133.04	10473.18	10393.10
40 Ca # 1	11.3	11.3	ug/l	0.99	81000.00		97362.90	97517.13	96675.75
47 Ti # 3	0.1024	0.1024	ug/l	31.69	1620.00		256.68	193.34	210.01
51 V # 2	0.01486	0.01486	ug/l	17.41	1800.00		256.67	298.89	246.67
52 Cr # 2	0.01256	0.01256	ug/l	142.68	1800.00		371.12	341.12	368.90
55 Mn # 3	0.5772	0.5772	ug/l	1.76	1800.00		12544.52	12654.65	12304.38
56 Fe # 1	18.7	18.7	ug/l	0.76	81000.00		161263.03	160027.97	159875.16
59 Co # 3	0.01409	0.01409	ug/l	7.26	1800.00		263.34	266.68	290.01
60 Ni # 2	0.04446	0.04446	ug/l	29.22	1800.00		114.45	114.45	77.78
63 Cu # 2	-0.06066	-0.06066	ug/l	4.85	1800.00		217.78	271.12	214.45
66 Zn # 3	0.004295	0.004295	ug/l	615.13	1800.00		700.03	633.37	603.36
75 As # 2	0.01388	0.01388	ug/l	27.04	100.00		19.33	20.33	18.33
78 Se # 1	-0.04713	-0.04713	ug/l	7.46	100.00		9.00	7.33	7.67
88 Sr # 3	0.04089	0.04089	ug/l	9.34	1800.00		1110.07	1300.09	1150.07
95 Mo # 3	0.05896	0.05896	ug/l	9.61	1800.00		336.68	373.35	326.68
107 Ag # 3	0.001037	0.001037	ug/l	74.83	100.00		136.67	140.00	123.34
111 Cd # 3	0.008075	0.008075	ug/l	27.44	100.00		26.59	19.92	29.93
118 Sn # 3	-0.04612	-0.04612	ug/l	4.72	1800.00		370.01	346.68	370.01
121 Sb # 3	0.005769	0.005769	ug/l	13.71	100.00		96.67	93.34	83.34
137 Ba # 3	0.0634	0.0634	ug/l	11.46	1800.00		273.34	270.01	320.01
202 Hg # 3	-0.02574	-0.02574	ug/l	8.48	5.00		42.67	44.33	32.33
205 Tl # 3	-0.002331	-0.002331	ug/l	52.68	20.00		113.34	100.00	156.67
208 Pb # 3	0.005171	0.005171	ug/l	72.58	1800.00		1613.42	1380.07	1446.74
232 Th # 3	0.01286	0.01286	ug/l	12.32	#VALUE!		693.37	640.03	736.71
238 U # 3	0.00837	0.00837	ug/l	4.84	#VALUE!		310.01	340.02	336.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	415672.44	0.50	442436.88	94.0	60 - 125		414434.16	418088.00	414495.16
45 Sc # 1	431601.00	0.30	456299.72	94.6	60 - 125		430499.97	431272.41	433030.56
45 Sc # 3	740715.81	1.08	765061.25	96.8	60 - 125		731734.13	746955.19	743458.13
74 Ge # 1	148846.31	0.37	153441.28	97.0	60 - 125		148277.02	148878.81	149383.11
74 Ge # 2	45137.61	11.93	47804.94	94.4	60 - 125		44008.42	50998.35	40406.05
74 Ge # 3	222938.84	1.31	224564.78	99.3	60 - 125		220140.05	225986.81	222689.69
89 Y # 3	1293562.00	0.67	1302847.50	99.3	60 - 125		1283637.80	1297307.10	1299741.00
115 In # 3	1320831.00	0.80	1366177.60	96.7	60 - 125		1311622.90	1332323.00	1318547.30
159 Tb # 3	1817196.60	0.60	2052817.90	88.5	60 - 125		1812489.10	1829598.30	1809502.50
209 Bi # 3	1162811.60	1.10	1405468.50	82.7	60 - 125		1155408.50	1177560.30	1155466.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\145_CCV.D\145_CCV.D#
 Date Acquired: Aug 27 2014 10:11 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	51.96 ug/l	0.57	50.00	89.5 - 110		101491.01	102827.77	101802.78
11 B	99.19 ug/l	1.31	100.00	89.5 - 110		157607.42	154059.09	155015.69
23 Na	5473 ug/l	0.78	5000.00	89.5 - 110		19748742.00	19615956.00	19829306.00
24 Mg	5469 ug/l	0.68	5000.00	89.5 - 110		13752470.00	13695362.00	13828045.00
27 Al	558.2 ug/l	0.81	500.00	89.5 - 110	Fail	1673328.90	1657934.90	1674122.00
39 K	5292 ug/l	0.43	5000.00	89.5 - 110		1884969.10	1915518.10	1928168.50
40 Ca	5529 ug/l	0.93	5000.00	89.5 - 110	Fail	38347232.00	37943520.00	38424592.00
47 Ti	51.95 ug/l	1.81	50.00	89.5 - 110		63681.55	63520.98	64882.26
51 V	52.55 ug/l	0.27	50.00	89.5 - 110		145155.53	147059.06	148091.25
52 Cr	51.51 ug/l	0.24	50.00	89.5 - 110		173367.11	173868.08	175802.00
55 Mn	528 ug/l	0.76	500.00	89.5 - 110		10706372.00	10687697.00	10827371.00
56 Fe	5496 ug/l	0.60	5000.00	89.5 - 110		49136848.00	49793964.00	49814140.00
59 Co	52.67 ug/l	0.53	50.00	89.5 - 110		807815.81	809994.88	816015.94
60 Ni	52.61 ug/l	0.47	50.00	89.5 - 110		65758.12	65684.54	66414.77
63 Cu	51.05 ug/l	0.82	50.00	89.5 - 110		176005.91	174726.64	176732.63
66 Zn	50.27 ug/l	0.20	50.00	89.5 - 110		112793.59	113424.20	113364.30
75 As	53.02 ug/l	0.71	50.00	89.5 - 110		19361.56	19255.12	19651.20
78 Se	51.82 ug/l	1.26	50.00	89.5 - 110		14335.31	14014.06	14396.69
88 Sr	51.63 ug/l	1.29	50.00	89.5 - 110		1394573.90	1360254.50	1383682.80
95 Mo	53.89 ug/l	1.14	50.00	89.5 - 110		219017.16	217380.00	218869.27
107 Ag	51.44 ug/l	0.80	50.00	89.5 - 110		582056.56	581399.56	584801.38
111 Cd	51.16 ug/l	0.49	50.00	89.5 - 110		124576.43	125580.87	125526.27
118 Sn	51.66 ug/l	0.33	50.00	89.5 - 110		394942.91	399740.63	399385.41
121 Sb	50.89 ug/l	0.77	50.00	89.5 - 110		468217.06	470500.47	469150.94
137 Ba	51.57 ug/l	0.90	50.00	89.5 - 110		210238.75	210395.05	210267.38
202 Hg	1.93 ug/l	0.26	2.50	89.5 - 110	Fail	5952.79	5948.45	6000.15
205 Tl	9.71 ug/l	0.80	10.00	89.5 - 110		248275.70	249849.61	249302.11
208 Pb	48.51 ug/l	1.06	50.00	89.5 - 110		1694575.80	1701543.30	1689211.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	453937.19	0.12	442436.88	102.6	60 - 125		453420.41	454495.88	453895.34
45 Sc	466325.09	0.28	456299.72	102.2	60 - 125		465176.16	467727.41	466071.72
45 Sc	836074.81	0.88	765061.25	109.3	60 - 125		844454.13	833113.19	830657.19
74 Ge	158301.25	0.19	153441.28	103.2	60 - 125		158365.17	157975.39	158563.19
74 Ge	48155.88	0.85	47804.94	100.7	60 - 125		47760.05	48129.92	48577.68
74 Ge	237336.66	0.15	224564.78	105.7	60 - 125		237016.92	237712.81	237280.25
89 Y	1375104.00	0.75	1302847.50	105.5	60 - 125		1369834.80	1368461.00	1387015.90
115 In	1368103.90	0.91	1366177.60	100.1	60 - 125		1354018.10	1372455.90	1377837.50
159 Tb	1894027.50	0.71	2052817.90	92.3	60 - 125		1889724.50	1883156.60	1909201.30
209 Bi	1178034.40	0.41	1405468.50	83.8	60 - 125		1172877.40	1178900.00	1182325.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

3 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\146_CCB.D\146_CCB.D#
 Date Acquired: Aug 27 2014 10:18 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.004382	0.004382	ug/l	65.34	#VALUE!		13.33	3.33	10.00
11 B #3	0.7479	0.7479	ug/l	15.94	#VALUE!		3467.05	3163.68	3377.05
23 Na #1	-11.24	-11.24	ug/l	1.46	#VALUE!		54062.82	53461.23	53898.81
24 Mg #1	0.3901	0.3901	ug/l	10.35	#VALUE!		2016.83	1856.80	1896.82
27 Al #1	0.4873	0.4873	ug/l	8.65	#VALUE!		2983.69	2896.97	2776.97
39 K #2	-10.37	-10.37	ug/l	3.38	#VALUE!		9045.72	9265.87	9199.17
40 Ca #1	1.697	1.697	ug/l	5.09	#VALUE!		34796.02	34912.76	35901.40
47 Ti #3	-0.06545	-0.06545	ug/l	33.49	#VALUE!		13.33	60.00	36.67
51 V #2	-0.007691	-0.007691	ug/l	37.86	#VALUE!		206.67	196.67	214.45
52 Cr #2	-0.00874	-0.00874	ug/l	62.25	#VALUE!		271.12	300.01	308.89
55 Mn #3	0.04439	0.04439	ug/l	17.36	#VALUE!		2116.84	2330.21	2420.23
56 Fe #1	1.398	1.398	ug/l	2.94	#VALUE!		16004.13	15593.58	15510.16
59 Co #3	0.001429	0.001429	ug/l	121.62	#VALUE!		60.00	103.34	103.34
60 Ni #2	0.02552	0.02552	ug/l	11.04	#VALUE!		75.56	76.67	83.33
63 Cu #2	-0.06016	-0.06016	ug/l	1.97	#VALUE!		228.89	228.89	240.00
66 Zn #3	-0.01802	-0.01802	ug/l	116.76	#VALUE!		636.69	573.36	560.02
75 As #2	0.001553	0.001553	ug/l	243.46	#VALUE!		14.33	14.00	16.67
78 Se #1	-0.04071	-0.04071	ug/l	24.98	#VALUE!		12.33	9.00	7.33
88 Sr #3	0.002121	0.002121	ug/l	75.01	#VALUE!		170.01	210.01	250.01
95 Mo #3	0.03352	0.03352	ug/l	19.60	#VALUE!		216.67	240.01	270.01
107 Ag #3	0.0003139	0.0003139	ug/l	907.61	#VALUE!		153.34	123.34	93.34
111 Cd #3	0.002984	0.002984	ug/l	94.94	#VALUE!		13.29	6.61	19.94
118 Sn #3	-0.006428	-0.006428	ug/l	63.26	#VALUE!		640.03	676.70	623.36
121 Sb #3	0.01798	0.01798	ug/l	30.19	#VALUE!		246.68	153.34	190.01
137 Ba #3	0.006054	0.006054	ug/l	86.09	#VALUE!		80.00	40.00	63.34
202 Hg #3	-0.01377	-0.01377	ug/l	29.49	#VALUE!		84.67	73.00	63.67
205 Tl #3	-0.004248	-0.004248	ug/l	4.83	#VALUE!		80.00	73.34	73.34
208 Pb #3	0.002984	0.002984	ug/l	1371.60	#VALUE!		2913.78	616.69	613.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	414763.94	0.92	442436.88	93.7	60 - 125		410944.38	414766.28	418581.09
45 Sc #1	425233.88	0.48	456299.72	93.2	60 - 125		422894.66	426625.13	426181.81
45 Sc #3	727593.06	0.83	765061.25	95.1	60 - 125		724382.88	723818.50	734577.75
74 Ge #1	147368.08	0.55	153441.28	96.0	60 - 125		146576.73	147329.75	148197.75
74 Ge #2	44500.42	1.19	47804.94	93.1	60 - 125		44074.20	44333.77	45093.29
74 Ge #3	219645.48	0.66	224564.78	97.8	60 - 125		218789.08	218820.41	221326.97
89 Y #3	1280402.30	0.46	1302847.50	98.3	60 - 125		1274330.90	1286181.10	1280694.60
115 In #3	1300180.90	0.60	1366177.60	95.2	60 - 125		1294229.50	1297284.80	1309028.80
159 Tb #3	1800874.40	1.55	2052817.90	87.7	60 - 125		1770622.30	1806247.50	1825753.30
209 Bi #3	1143549.80	1.23	1405468.50	81.4	60 - 125		1157972.00	1142700.60	1129976.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\147SMPL.D\147SMPL.D#
 Date Acquired: Aug 27 2014 10:25 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.008094	0.008094	ug/l	35.26	100.00		10.00	20.00	16.67
11 B #3	0.02034	0.02034	ug/l	338.99	1800.00		2340.20	2203.51	2390.21
23 Na #1	-2.599	-2.599	ug/l	16.18	81000.00		80976.65	83641.88	81374.66
24 Mg #1	6.264	6.264	ug/l	1.67	81000.00		15419.80	15566.64	15149.66
27 Al #1	7.782	7.782	ug/l	1.44	81000.00		22980.97	22500.33	22677.17
39 K #2	-6.79	-6.79	ug/l	4.75	81000.00		10199.68	10339.80	10679.98
40 Ca #1	10.9	10.9	ug/l	1.00	81000.00		93332.41	93376.38	92599.95
47 Ti #3	0.07042	0.07042	ug/l	17.59	1620.00		190.01	166.67	186.67
51 V #2	0.01889	0.01889	ug/l	28.25	1800.00		284.45	277.78	264.45
52 Cr #2	0.008137	0.008137	ug/l	83.69	1800.00		342.23	367.78	332.23
55 Mn #3	0.5798	0.5798	ug/l	2.03	1800.00		12304.42	12107.55	12618.00
56 Fe #1	18.16	18.16	ug/l	0.25	81000.00		153292.23	153299.48	153626.13
59 Co #3	0.01254	0.01254	ug/l	6.44	1800.00		240.01	260.01	240.01
60 Ni #2	0.03847	0.03847	ug/l	40.73	1800.00		74.45	94.45	113.33
63 Cu #2	-0.05305	-0.05305	ug/l	4.13	1800.00		256.67	260.00	252.23
66 Zn #3	-0.0007981	-0.0007981	ug/l	1660.20	1800.00		650.03	606.69	616.69
75 As #2	0.0216	0.0216	ug/l	28.54	100.00		21.67	19.67	24.33
78 Se #1	-0.04211	-0.04211	ug/l	23.68	100.00		12.00	8.67	7.00
88 Sr #3	0.03887	0.03887	ug/l	13.69	1800.00		1130.07	986.72	1253.42
95 Mo #3	0.07194	0.07194	ug/l	13.51	1800.00		390.02	426.68	353.35
107 Ag #3	0.0009211	0.0009211	ug/l	131.58	100.00		130.00	116.67	143.34
111 Cd #3	0.006324	0.006324	ug/l	19.91	100.00		19.91	26.57	16.59
118 Sn #3	-0.02028	-0.02028	ug/l	24.71	1800.00		510.02	586.70	540.03
121 Sb #3	0.01112	0.01112	ug/l	19.99	100.00		113.34	150.01	146.67
137 Ba #3	0.07253	0.07253	ug/l	14.33	1800.00		286.68	303.35	366.68
202 Hg #3	-0.01645	-0.01645	ug/l	20.71	5.00		57.33	77.34	65.34
205 Tl #3	-0.002783	-0.002783	ug/l	61.01	20.00		73.34	156.67	106.67
208 Pb #3	0.00341	0.00341	ug/l	88.09	1800.00		1370.07	1533.41	1353.40
232 Th #3	0.05265	0.05265	ug/l	3.97	#VALUE!		1920.19	2113.55	2146.89
238 U #3	0.009486	0.009486	ug/l	6.27	#VALUE!		356.68	393.35	350.02

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	414899.56	0.31	442436.88	93.8	60 - 125		416300.25	414563.28	413835.09
45 Sc #1	424692.31	0.32	456299.72	93.1	60 - 125		423185.97	424998.22	425892.84
45 Sc #3	723651.63	0.35	765061.25	94.6	60 - 125		722689.06	726519.44	721746.38
74 Ge #1	147638.00	0.17	153441.28	96.2	60 - 125		147582.61	147418.13	147913.22
74 Ge #2	44710.87	1.36	47804.94	93.5	60 - 125		44260.15	44470.67	45401.80
74 Ge #3	219214.45	0.87	224564.78	97.6	60 - 125		217194.06	219460.67	220988.64
89 Y #3	1279521.50	0.35	1302847.50	98.2	60 - 125		1274644.00	1280658.30	1283262.80
115 In #3	1300178.60	0.69	1366177.60	95.2	60 - 125		1290286.50	1302471.30	1307778.40
159 Tb #3	1814181.00	0.80	2052817.90	88.4	60 - 125		1799474.10	1814739.10	1828329.50
209 Bi #3	1154798.10	2.52	1405468.50	82.2	60 - 125		1121146.00	1171612.80	1171635.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\148_CCV.D\148_CCV.D#
 Date Acquired: Aug 27 2014 10:33 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	46.74 ug/l	0.46	50.00	89.5 - 110		90239.77	90293.66	90855.94
11 B	92.05 ug/l	0.68	100.00	89.5 - 110		143539.39	141572.19	142284.95
23 Na	5104 ug/l	0.40	5000.00	89.5 - 110		17894282.00	17713258.00	17852980.00
24 Mg	5088 ug/l	0.70	5000.00	89.5 - 110		12362698.00	12424798.00	12391901.00
27 Al	522.8 ug/l	0.42	500.00	89.5 - 110		1505533.40	1509782.90	1523192.60
39 K	5028 ug/l	0.78	5000.00	89.5 - 110		1736621.30	1748175.80	1784967.00
40 Ca	5157 ug/l	0.59	5000.00	89.5 - 110		34721068.00	34361284.00	34508128.00
47 Ti	48.88 ug/l	0.88	50.00	89.5 - 110		57876.26	58274.11	59541.41
51 V	49.2 ug/l	0.28	50.00	89.5 - 110		132244.67	132817.92	133871.56
52 Cr	48.74 ug/l	0.58	50.00	89.5 - 110		158012.14	159093.41	161885.97
55 Mn	497.3 ug/l	0.86	500.00	89.5 - 110		9814457.00	9779072.00	9972932.00
56 Fe	5154 ug/l	0.68	5000.00	89.5 - 110		45054544.00	45051728.00	44931500.00
59 Co	49.26 ug/l	0.33	50.00	89.5 - 110		737039.06	737368.81	743581.94
60 Ni	49.91 ug/l	0.65	50.00	89.5 - 110		60472.45	60311.90	60858.13
63 Cu	48.13 ug/l	0.69	50.00	89.5 - 110		160322.27	159897.72	161033.61
66 Zn	44.35 ug/l	0.10	50.00	89.5 - 110	Fail	97383.59	97296.70	97470.98
75 As	48.24 ug/l	0.32	50.00	89.5 - 110		17017.56	17083.63	17204.42
78 Se	45.15 ug/l	0.45	50.00	89.5 - 110		12119.37	12043.98	12072.00
88 Sr	47.44 ug/l	0.60	50.00	89.5 - 110		1241332.30	1240278.00	1247259.10
95 Mo	50.44 ug/l	1.19	50.00	89.5 - 110		199784.69	198168.19	200876.56
107 Ag	48.3 ug/l	0.64	50.00	89.5 - 110		534875.88	534187.56	533865.69
111 Cd	46.92 ug/l	0.31	50.00	89.5 - 110		111631.04	112480.52	112271.96
118 Sn	48.28 ug/l	0.48	50.00	89.5 - 110		362275.22	363577.44	363813.94
121 Sb	46.62 ug/l	0.86	50.00	89.5 - 110		420765.91	418538.06	420055.66
137 Ba	48.03 ug/l	1.03	50.00	89.5 - 110		192268.48	190511.09	190931.89
202 Hg	2.245 ug/l	0.32	2.50	89.5 - 110		6754.11	6869.83	6730.77
205 Tl	9.019 ug/l	0.22	10.00	89.5 - 110		225806.95	229197.23	225778.61
208 Pb	44.91 ug/l	0.93	50.00	89.5 - 110		1540853.80	1536457.30	1539659.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	447440.88	0.08	442436.88	101.1	60 - 125		447726.09	447552.66	447043.94
45 Sc	451445.22	0.54	456299.72	98.9	60 - 125		451376.00	449050.03	453909.63
45 Sc	812629.25	0.95	765061.25	106.2	60 - 125		811252.56	805653.31	820981.88
74 Ge	154003.13	0.14	153441.28	100.4	60 - 125		153765.22	154176.44	154067.70
74 Ge	46601.13	0.80	47804.94	97.5	60 - 125		46203.84	46655.00	46944.54
74 Ge	231237.23	0.19	224564.78	103.0	60 - 125		231140.78	230863.52	231707.44
89 Y	1348449.30	0.54	1302847.50	103.5	60 - 125		1355994.60	1341479.00	1347874.30
115 In	1335806.10	0.59	1366177.60	97.8	60 - 125		1329264.10	1344502.50	1333651.90
159 Tb	1857047.50	0.80	2052817.90	90.5	60 - 125		1852501.40	1873616.60	1845024.40
209 Bi	1142394.60	2.00	1405468.50	81.3	60 - 125		1117524.80	1147238.40	1162420.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\149_CCB.D\149_CCB.D#
 Date Acquired: Aug 27 2014 10:40 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001949	0.001949	ug/l	56.80	#VALUE!		6.67	3.33	3.33
11 B # 3	0.8973	0.8973	ug/l	6.65	#VALUE!		3527.08	3493.74	3423.72
23 Na # 1	-11.17	-11.17	ug/l	0.58	#VALUE!		52873.03	52505.35	53013.40
24 Mg # 1	0.2796	0.2796	ug/l	6.97	#VALUE!		1676.78	1596.78	1620.11
27 Al # 1	0.3722	0.3722	ug/l	9.98	#VALUE!		2616.93	2430.22	2490.23
39 K # 2	-8.102	-8.102	ug/l	55.25	#VALUE!		8959.04	8805.59	9065.75
40 Ca # 1	1.645	1.645	ug/l	4.07	#VALUE!		34118.12	33543.59	34525.32
47 Ti # 3	-0.06785	-0.06785	ug/l	12.29	#VALUE!		26.67	43.33	30.00
51 V # 2	-0.0001707	-0.0001707	ug/l	5940.20	#VALUE!		187.78	232.23	193.34
52 Cr # 2	-0.002499	-0.002499	ug/l	774.71	#VALUE!		294.45	267.78	280.00
55 Mn # 3	0.04809	0.04809	ug/l	7.60	#VALUE!		2256.87	2303.54	2416.89
56 Fe # 1	1.158	1.158	ug/l	4.22	#VALUE!		13782.13	13011.52	13445.22
59 Co # 3	0.0003364	0.0003364	ug/l	170.30	#VALUE!		76.67	76.67	63.34
60 Ni # 2	0.03102	0.03102	ug/l	9.72	#VALUE!		66.67	85.56	80.00
63 Cu # 2	-0.05353	-0.05353	ug/l	3.35	#VALUE!		197.78	252.23	244.45
66 Zn # 3	0.001723	0.001723	ug/l	761.46	#VALUE!		636.70	593.36	636.70
75 As # 2	0.002928	0.002928	ug/l	58.74	#VALUE!		12.00	15.67	14.67
78 Se # 1	-0.04399	-0.04399	ug/l	13.95	#VALUE!		8.00	7.33	10.33
88 Sr # 3	0.003482	0.003482	ug/l	19.68	#VALUE!		256.68	223.34	240.01
95 Mo # 3	0.01989	0.01989	ug/l	26.21	#VALUE!		193.34	206.67	166.67
107 Ag # 3	0.001177	0.001177	ug/l	94.65	#VALUE!		123.34	146.67	126.67
111 Cd # 3	0.003037	0.003037	ug/l	143.13	#VALUE!		23.29	3.29	13.30
118 Sn # 3	-0.03187	-0.03187	ug/l	20.70	#VALUE!		483.36	490.02	403.35
121 Sb # 3	0.01718	0.01718	ug/l	7.44	#VALUE!		200.01	180.01	186.67
137 Ba # 3	0.007543	0.007543	ug/l	56.05	#VALUE!		50.00	83.34	66.67
202 Hg # 3	-0.004407	-0.004407	ug/l	95.96	#VALUE!		110.34	88.00	100.67
205 Tl # 3	-0.004217	-0.004217	ug/l	12.78	#VALUE!		73.34	90.00	63.34
208 Pb # 3	-0.01969	-0.01969	ug/l	4.98	#VALUE!		603.36	630.03	670.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	407157.50	0.90	442436.88	92.0	60 - 125		405015.47	405084.31	411372.69
45 Sc # 1	415301.06	0.36	456299.72	91.0	60 - 125		414255.97	414638.41	417008.72
45 Sc # 3	710743.75	0.75	765061.25	92.9	60 - 125		704799.13	712230.38	715201.63
74 Ge # 1	144454.66	0.46	153441.28	94.1	60 - 125		143866.92	144315.95	145181.11
74 Ge # 2	40658.23	13.59	47804.94	85.1	60 - 125		34279.65	43663.31	44031.77
74 Ge # 3	216599.95	0.75	224564.78	96.5	60 - 125		214766.48	217167.11	217866.30
89 Y # 3	1260477.10	0.58	1302847.50	96.7	60 - 125		1256231.00	1256216.50	1268983.60
115 In # 3	1294728.10	0.52	1366177.60	94.8	60 - 125		1288165.60	1301694.60	1294324.00
159 Tb # 3	1780689.40	0.86	2052817.90	86.7	60 - 125		1765971.60	1796413.80	1779682.60
209 Bi # 3	1144215.50	0.88	1405468.50	81.4	60 - 125		1153281.60	1133361.40	1146003.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-A QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\150ICSA.D\150ICSA.D#
 Date Acquired: Aug 27 2014 10:48 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSA
 Misc Info: MS ICSA WK 00066
 Vial Number: 4510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	High Limit	Flag
9 Be	0.009669 ug/l	38.97	---	
11 B	0.3644 ug/l	25.40	---	
23 Na	99250 ug/l	0.49	1.20	
24 Mg	97290 ug/l	0.44	1.20	
27 Al	98060 ug/l	0.26	1.20	
39 K	100800 ug/l	0.22	1.20	
40 Ca	104100 ug/l	0.49	1.20	
47 Ti	1992 ug/l	1.08	1.20	
51 V	0.02342 ug/l	16.25	---	
52 Cr	1.284 ug/l	2.24	---	
55 Mn	0.4112 ug/l	1.16	---	
56 Fe	97190 ug/l	0.08	1.20	
59 Co	0.1026 ug/l	6.83	---	
60 Ni	0.195 ug/l	3.35	---	
63 Cu	0.4392 ug/l	1.90	---	
66 Zn	1.782 ug/l	2.12	---	
75 As	0.08365 ug/l	34.54	---	
78 Se	-0.01131 ug/l	128.56	---	
88 Sr	0.5965 ug/l	0.69	---	
95 Mo	2135 ug/l	0.17	1.20	
107 Ag	0.01672 ug/l	30.59	---	
111 Cd	0.2865 ug/l	14.90	---	
118 Sn	-0.01784 ug/l	37.41	---	
121 Sb	0.03681 ug/l	10.47	---	
137 Ba	0.08776 ug/l	10.52	---	
202 Hg	-0.00655 ug/l	29.95	---	
205 Tl	-0.004784 ug/l	11.46	---	
208 Pb	0.1323 ug/l	1.22	---	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	426164.34	0.09	442436.88	96.3	60 - 125		
45 Sc	458632.94	0.33	456299.72	100.5	60 - 125		
45 Sc	804195.69	0.41	765061.25	105.1	60 - 125		
74 Ge	145761.77	0.47	153441.28	95.0	60 - 125		
74 Ge	44524.86	1.13	47804.94	93.1	60 - 125		
74 Ge	220614.78	0.40	224564.78	98.2	60 - 125		
89 Y	1334526.30	0.92	1302847.50	102.4	60 - 125		
115 In	1261983.10	0.22	1366177.60	92.4	60 - 125		
159 Tb	1791398.90	0.67	2052817.90	87.3	60 - 125		
209 Bi	972483.50	0.42	1405468.50	69.2	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICS-AB QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\151ICSB.D\151ICSB.D#
 Date Acquired: Aug 27 2014 10:55 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: ICSAB
 Misc Info: MS ICSAB WK 00065
 Vial Number: 4511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: ICSAB
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.01 ug/l	45.81	--- ##### - #####	
11 B	0.18 ug/l	35.44	--- ##### - #####	
23 Na	98590.00 ug/l	0.85	100000.00 80 - 120	
24 Mg	96670.00 ug/l	0.79	100000.00 80 - 120	
27 Al	97580.00 ug/l	0.85	100000.00 80 - 120	
39 K	99930.00 ug/l	1.13	100000.00 80 - 120	
40 Ca	103700.00 ug/l	0.42	100000.00 80 - 120	
47 Ti	1991.00 ug/l	0.99	2000.00 80 - 120	
51 V	0.01 ug/l	36.65	--- ##### - #####	
52 Cr	21.48 ug/l	0.97	20.00 80 - 120	
55 Mn	20.97 ug/l	0.14	20.00 80 - 120	
56 Fe	98500.00 ug/l	0.22	100000.00 80 - 120	
59 Co	20.53 ug/l	0.49	20.00 80 - 120	
60 Ni	20.05 ug/l	0.89	20.00 80 - 120	
63 Cu	18.83 ug/l	0.84	20.00 80 - 120	
66 Zn	19.30 ug/l	0.59	20.00 80 - 120	
75 As	21.34 ug/l	0.51	20.00 80 - 120	
78 Se	-0.03 ug/l	9.38	--- ##### - #####	
88 Sr	0.59 ug/l	0.20	--- ##### - #####	
95 Mo	2135.00 ug/l	0.78	2000.00 80 - 120	
107 Ag	18.23 ug/l	0.28	20.00 80 - 120	
111 Cd	18.64 ug/l	0.48	20.00 80 - 120	
118 Sn	-0.01 ug/l	75.26	--- ##### - #####	
121 Sb	0.03 ug/l	14.98	--- ##### - #####	
137 Ba	0.08 ug/l	10.31	--- ##### - #####	
202 Hg	-0.01 ug/l	52.06	--- ##### - #####	
205 Tl	0.00 ug/l	24.33	--- ##### - #####	
208 Pb	0.16 ug/l	30.39	--- ##### - #####	

ISTD Elements

Element	CPS	Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	421533.44	0.68	442436.88	95.3	60 - 125		
45 Sc	430419.22	0.19	456299.72	94.3	60 - 125		
45 Sc	786380.69	0.83	765061.25	102.8	60 - 125		
74 Ge	138515.81	0.50	153441.28	90.3	60 - 125		
74 Ge	42765.91	1.35	47804.94	89.5	60 - 125		
74 Ge	216293.30	0.71	224564.78	96.3	60 - 125		
89 Y	1310128.10	0.39	1302847.50	100.6	60 - 125		
115 In	1229713.40	0.74	1366177.60	90.0	60 - 125		
159 Tb	1755459.80	0.96	2052817.90	85.5	60 - 125		
209 Bi	958811.25	0.95	1405468.50	68.2	60 - 125		

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\152SMPL.D\152SMPL.D#
 Date Acquired: Aug 27 2014 11:03 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.007893	0.007893	ug/l	73.69	100.00		6.67	13.33	23.33
11 B #3	-0.107	-0.107	ug/l	199.35	1800.00		2236.85	2003.49	2010.16
23 Na #1	6.113	6.113	ug/l	5.56	81000.00		107498.37	106985.53	106586.53
24 Mg #1	11.63	11.63	ug/l	2.07	81000.00		27113.09	26956.00	26388.51
27 Al #1	12.93	12.93	ug/l	3.47	81000.00		36722.22	35095.91	34902.34
39 K #2	-3.55	-3.55	ug/l	7.29	81000.00		11423.74	11343.76	11473.78
40 Ca #1	16.15	16.15	ug/l	1.75	81000.00		123533.27	121444.14	121695.57
47 Ti #3	0.4968	0.4968	ug/l	18.97	1620.00		583.36	690.03	640.03
51 V #2	0.0169	0.0169	ug/l	24.94	1800.00		262.23	263.34	281.12
52 Cr #2	0.006869	0.006869	ug/l	34.01	1800.00		340.01	335.56	348.90
55 Mn #3	0.5674	0.5674	ug/l	15.89	1800.00		12137.56	12054.22	12607.96
56 Fe #1	26.85	26.85	ug/l	1.20	81000.00		219455.52	217008.20	216963.13
59 Co #3	0.01208	0.01208	ug/l	11.81	1800.00		256.68	246.67	230.01
60 Ni #2	0.02947	0.02947	ug/l	21.90	1800.00		85.56	88.89	74.45
63 Cu #2	-0.05339	-0.05339	ug/l	13.25	1800.00		277.78	234.45	248.89
66 Zn #3	-0.001532	-0.001532	ug/l	2175.60	1800.00		576.69	696.70	630.03
75 As #2	0.004271	0.004271	ug/l	58.02	100.00		15.00	16.00	16.67
78 Se #1	-0.05072	-0.05072	ug/l	5.47	100.00		7.67	6.33	6.67
88 Sr #3	0.04026	0.04026	ug/l	26.68	1800.00		1150.07	1066.73	1210.08
95 Mo #3	0.9723	0.9723	ug/l	13.39	1800.00		3980.56	3970.55	3753.83
107 Ag #3	0.004362	0.004362	ug/l	106.72	100.00		140.00	166.67	193.34
111 Cd #3	0.006545	0.006545	ug/l	60.20	100.00		12.46	35.79	19.17
118 Sn #3	-0.04047	-0.04047	ug/l	15.05	1800.00		413.35	416.68	380.02
121 Sb #3	0.008477	0.008477	ug/l	12.61	100.00		110.00	130.01	106.67
137 Ba #3	0.06059	0.06059	ug/l	19.90	1800.00		276.68	270.01	276.68
202 Hg #3	-0.01317	-0.01317	ug/l	63.64	5.00		48.67	105.34	79.00
205 Tl #3	-0.002927	-0.002927	ug/l	23.81	20.00		90.00	143.34	100.00
208 Pb #3	0.00582	0.00582	ug/l	67.10	1800.00		1436.74	1693.54	1423.41
232 Th #3	0.02292	0.02292	ug/l	16.22	#VALUE!		1050.07	1043.40	1000.07
238 U #3	0.007978	0.007978	ug/l	14.39	#VALUE!		293.35	333.35	310.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	410136.75	12.96	442436.88	92.7	60 - 125		404728.00	465799.63	359882.53
45 Sc #1	411504.56	0.59	456299.72	90.2	60 - 125		409318.59	411108.81	414086.31
45 Sc #3	737713.50	16.77	765061.25	96.4	60 - 125		732288.13	864076.94	616775.50
74 Ge #1	144934.75	0.26	153441.28	94.5	60 - 125		144773.27	144668.73	145362.25
74 Ge #2	44439.83	0.19	47804.94	93.0	60 - 125		44392.65	44535.25	44391.61
74 Ge #3	224430.52	11.38	224564.78	99.9	60 - 125		225757.13	249275.31	198259.14
89 Y #3	1295745.50	16.91	1302847.50	99.5	60 - 125		1286724.30	1519174.10	1081338.40
115 In #3	1333479.60	15.67	1366177.60	97.6	60 - 125		1346709.40	1535432.30	1118297.10
159 Tb #3	1850407.50	15.91	2052817.90	90.1	60 - 125		1834051.30	2152540.50	1564630.60
209 Bi #3	1166942.90	14.46	1405468.50	83.0	60 - 125		1175596.90	1331149.10	994082.81

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\153SMPL.D\153SMPL.D#
 Date Acquired: Aug 27 2014 11:10 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 1
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.005059	0.005059	ug/l	38.41	100.00		13.33	6.67	10.00
11 B # 3	-0.1248	-0.1248	ug/l	65.32	1800.00		2076.85	2216.85	1970.15
23 Na # 1	3.445	3.445	ug/l	9.92	81000.00		102725.49	100604.62	100420.30
24 Mg # 1	10.81	10.81	ug/l	0.95	81000.00		26038.09	25617.64	25373.87
27 Al # 1	11.82	11.82	ug/l	2.58	81000.00		34571.79	32972.15	33095.81
39 K # 2	-4.649	-4.649	ug/l	33.84	81000.00		11093.55	10669.95	11597.22
40 Ca # 1	15.21	15.21	ug/l	2.69	81000.00		122815.55	117827.52	118221.04
47 Ti # 3	0.3303	0.3303	ug/l	33.52	1620.00		603.36	393.35	436.69
51 V # 2	0.009356	0.009356	ug/l	55.41	1800.00		241.12	245.56	266.67
52 Cr # 2	0.0009775	0.0009775	ug/l	618.21	1800.00		318.89	311.12	345.56
55 Mn # 3	0.5644	0.5644	ug/l	1.93	1800.00		12401.07	12277.74	12754.73
56 Fe # 1	23.23	23.23	ug/l	0.23	81000.00		194609.39	194724.70	192883.02
59 Co # 3	0.01126	0.01126	ug/l	9.68	1800.00		216.68	240.01	253.34
60 Ni # 2	0.03475	0.03475	ug/l	10.88	1800.00		87.78	86.67	94.45
63 Cu # 2	-0.05436	-0.05436	ug/l	5.48	1800.00		257.78	244.45	254.45
66 Zn # 3	0.01495	0.01495	ug/l	151.10	1800.00		700.03	710.04	630.03
75 As # 2	0.009513	0.009513	ug/l	84.53	100.00		18.67	20.00	14.67
78 Se # 1	-0.04669	-0.04669	ug/l	13.86	100.00		9.67	6.33	8.00
88 Sr # 3	0.03798	0.03798	ug/l	1.85	1800.00		1123.40	1156.74	1123.40
95 Mo # 3	0.4379	0.4379	ug/l	7.79	1800.00		2006.83	1770.15	1813.49
107 Ag # 3	0.003494	0.003494	ug/l	107.78	100.00		196.67	116.67	176.67
111 Cd # 3	0.004478	0.004478	ug/l	70.30	100.00		12.89	12.94	26.27
118 Sn # 3	-0.04355	-0.04355	ug/l	10.76	1800.00		426.68	363.35	376.68
121 Sb # 3	0.008632	0.008632	ug/l	30.18	100.00		116.67	143.34	96.67
137 Ba # 3	0.05588	0.05588	ug/l	3.73	1800.00		270.01	263.34	256.68
202 Hg # 3	-0.01809	-0.01809	ug/l	23.62	5.00		55.33	79.34	57.33
205 Tl # 3	-0.002756	-0.002756	ug/l	37.81	20.00		86.67	140.00	123.34
208 Pb # 3	0.006585	0.006585	ug/l	19.58	1800.00		1540.08	1560.09	1626.76
232 Th # 3	0.02069	0.02069	ug/l	7.13	#VALUE!		946.72	986.73	1033.41
238 U # 3	0.009027	0.009027	ug/l	7.54	#VALUE!		363.35	340.01	383.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	411186.53	1.19	442436.88	92.9	60 - 125		405954.91	415685.94	411918.78
45 Sc # 1	422643.28	0.76	456299.72	92.6	60 - 125		424254.28	424708.06	418967.53
45 Sc # 3	758223.69	2.34	765061.25	99.1	60 - 125		738208.94	771979.81	764482.38
74 Ge # 1	146660.02	0.26	153441.28	95.6	60 - 125		147050.80	146287.36	146641.91
74 Ge # 2	44730.23	1.06	47804.94	93.6	60 - 125		44252.45	45198.02	44740.24
74 Ge # 3	226927.55	1.09	224564.78	101.1	60 - 125		224174.97	227661.09	228946.64
89 Y # 3	1318284.00	0.99	1302847.50	101.2	60 - 125		1303274.80	1324154.40	1327423.00
115 In # 3	1347191.80	0.64	1366177.60	98.6	60 - 125		1338372.30	1347470.60	1355732.40
159 Tb # 3	1874157.50	0.80	2052817.90	91.3	60 - 125		1859223.30	1889361.90	1873887.30
209 Bi # 3	1195024.50	1.07	1405468.50	85.0	60 - 125		1200743.50	1203994.00	1180335.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\154SMPL.D\154SMPL.D#
 Date Acquired: Aug 27 2014 11:17 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: Rinse
 Misc Info:
 Vial Number: 2
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	0.001259	0.001259	ug/l	145.83	100.00		0.00	3.33	6.67
11 B # 3	-0.2107	-0.2107	ug/l	45.48	1800.00		2120.19	1990.15	1880.13
23 Na # 1	-6.415	-6.415	ug/l	24.10	81000.00		67899.73	67100.53	67448.46
24 Mg # 1	2.37	2.37	ug/l	8.55	81000.00		6297.84	6261.19	6241.16
27 Al # 1	2.312	2.312	ug/l	4.32	81000.00		7261.57	7955.21	7671.75
39 K # 2	-9.559	-9.559	ug/l	8.38	81000.00		9289.20	9339.21	9829.50
40 Ca # 1	3.499	3.499	ug/l	16.82	81000.00		45745.85	44763.50	44840.38
47 Ti # 3	0.01215	0.01215	ug/l	109.96	1620.00		113.34	143.34	123.34
51 V # 2	-0.005932	-0.005932	ug/l	140.19	1800.00		202.23	195.56	236.67
52 Cr # 2	-0.004565	-0.004565	ug/l	200.57	1800.00		296.67	285.56	341.12
55 Mn # 3	0.09866	0.09866	ug/l	1.95	1800.00		3417.08	3420.42	3457.09
56 Fe # 1	4.779	4.779	ug/l	8.35	81000.00		42575.89	41757.66	42195.32
59 Co # 3	0.0002334	0.0002334	ug/l	874.89	1800.00		40.00	96.67	86.67
60 Ni # 2	0.01789	0.01789	ug/l	37.17	1800.00		70.00	77.78	62.22
63 Cu # 2	-0.07084	-0.07084	ug/l	0.91	1800.00		195.56	202.23	201.11
66 Zn # 3	-0.07788	-0.07788	ug/l	13.65	1800.00		486.69	506.69	456.69
75 As # 2	-0.0006187	-0.0006187	ug/l	1108.00	100.00		12.33	13.67	17.00
78 Se # 1	-0.05165	-0.05165	ug/l	12.20	100.00		4.67	7.67	8.00
88 Sr # 3	0.006656	0.006656	ug/l	11.32	1800.00		326.68	353.35	320.01
95 Mo # 3	0.155	0.155	ug/l	12.38	1800.00		650.03	770.04	776.71
107 Ag # 3	-0.003351	-0.003351	ug/l	24.02	100.00		83.34	80.00	96.67
111 Cd # 3	0.001381	0.001381	ug/l	100.51	100.00		9.86	6.50	13.16
118 Sn # 3	-0.05382	-0.05382	ug/l	4.82	1800.00		333.35	290.01	306.68
121 Sb # 3	0.000215	0.000215	ug/l	1218.60	100.00		20.00	66.67	40.00
137 Ba # 3	0.005574	0.005574	ug/l	63.51	1800.00		56.67	76.67	50.00
202 Hg # 3	-0.01162	-0.01162	ug/l	39.69	5.00		84.67	94.00	68.34
205 Tl # 3	-0.005307	-0.005307	ug/l	12.85	20.00		70.00	43.33	40.00
208 Pb # 3	-0.01421	-0.01421	ug/l	35.51	1800.00		683.36	816.70	1047.16
232 Th # 3	0.007486	0.007486	ug/l	7.80	#VALUE!		513.36	500.03	546.69
238 U # 3	0.001218	0.001218	ug/l	61.29	#VALUE!		40.00	90.00	86.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	417424.91	0.83	442436.88	94.3	60 - 125		413451.44	419116.56	419706.72
45 Sc # 1	413480.28	6.49	456299.72	90.6	60 - 125		382712.56	425577.69	432150.69
45 Sc # 3	769575.06	1.68	765061.25	100.6	60 - 125		758004.63	767227.25	783493.19
74 Ge # 1	146681.83	3.98	153441.28	95.6	60 - 125		139981.78	149341.70	150722.05
74 Ge # 2	44716.47	0.77	47804.94	93.5	60 - 125		44320.34	44931.83	44897.23
74 Ge # 3	227708.14	0.49	224564.78	101.4	60 - 125		227766.11	228791.92	226566.41
89 Y # 3	1322707.00	1.12	1302847.50	101.5	60 - 125		1310027.80	1319022.80	1339070.60
115 In # 3	1341604.80	0.74	1366177.60	98.2	60 - 125		1352879.00	1333840.60	1338094.80
159 Tb # 3	1853869.80	1.31	2052817.90	90.3	60 - 125		1831287.50	1850892.50	1879429.40
209 Bi # 3	1200262.00	0.58	1405468.50	85.4	60 - 125		1197716.90	1194868.60	1208200.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\155_CCV.D\155_CCV.D#
 Date Acquired: Aug 27 2014 11:25 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.48 ug/l	0.65	50.00	89.5 - 110		86633.81	87089.38	86841.66
11 B	95.05 ug/l	0.79	100.00	89.5 - 110		135990.86	136509.88	135830.28
23 Na	5162 ug/l	0.35	5000.00	89.5 - 110		17095916.00	17432016.00	17408832.00
24 Mg	5130 ug/l	0.32	5000.00	89.5 - 110		11860806.00	12079643.00	12070303.00
27 Al	531.2 ug/l	0.22	500.00	89.5 - 110		1466500.10	1487235.40	1476748.30
39 K	5090 ug/l	18.87	5000.00	89.5 - 110		1625303.10	1613633.90	1693836.30
40 Ca	5322 ug/l	0.52	5000.00	89.5 - 110		33840728.00	34667584.00	34203288.00
47 Ti	49.6 ug/l	1.88	50.00	89.5 - 110		57123.96	56622.37	57739.27
51 V	51.49 ug/l	18.74	50.00	89.5 - 110		127566.33	126052.96	132429.41
52 Cr	50.81 ug/l	17.82	50.00	89.5 - 110		153031.34	152139.47	156995.31
55 Mn	513.8 ug/l	0.50	500.00	89.5 - 110		9833579.00	9798515.00	9968033.00
56 Fe	5388 ug/l	0.51	5000.00	89.5 - 110		45054204.00	45300588.00	45274584.00
59 Co	50.47 ug/l	1.01	50.00	89.5 - 110		733788.31	732733.75	734826.56
60 Ni	52.26 ug/l	17.34	50.00	89.5 - 110		58813.81	57915.51	59397.99
63 Cu	50.97 ug/l	18.00	50.00	89.5 - 110		157055.98	154410.00	160202.86
66 Zn	45.83 ug/l	0.99	50.00	89.5 - 110		97199.57	97665.24	97564.92
75 As	50.32 ug/l	17.83	50.00	89.5 - 110		16357.31	16335.62	16849.75
78 Se	46.65 ug/l	0.60	50.00	89.5 - 110		11944.25	12121.05	12137.72
88 Sr	49.24 ug/l	0.69	50.00	89.5 - 110		1236392.10	1246964.90	1274768.50
95 Mo	51.86 ug/l	0.10	50.00	89.5 - 110		199809.81	202593.30	201169.89
107 Ag	49.24 ug/l	0.31	50.00	89.5 - 110		531879.44	535439.56	534255.13
111 Cd	47.96 ug/l	0.37	50.00	89.5 - 110		111751.88	112546.12	112768.58
118 Sn	49.59 ug/l	0.17	50.00	89.5 - 110		363095.66	367259.41	366654.41
121 Sb	48.01 ug/l	0.19	50.00	89.5 - 110		419930.56	426798.78	424527.53
137 Ba	49.04 ug/l	0.82	50.00	89.5 - 110		188435.13	192737.34	193032.81
202 Hg	2.295 ug/l	0.61	2.50	89.5 - 110		6920.51	6916.85	6954.88
205 Tl	9.225 ug/l	0.45	10.00	89.5 - 110		230568.30	231683.91	233819.94
208 Pb	46.11 ug/l	0.72	50.00	89.5 - 110		1573399.00	1572388.30	1593685.80

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	414202.25	0.90	442436.88	93.6	60 - 125		410143.69	417468.38	414994.72
45 Sc	433709.13	0.80	456299.72	95.0	60 - 125		429849.72	436576.03	434701.63
45 Sc	781770.94	0.98	765061.25	102.2	60 - 125		777552.19	790591.75	777168.81
74 Ge	148908.20	0.33	153441.28	97.0	60 - 125		148370.11	149323.50	149031.00
74 Ge	43955.65	15.87	47804.94	91.9	60 - 125		44005.18	50906.11	36955.67
74 Ge	224063.67	1.10	224564.78	99.8	60 - 125		222045.83	223322.58	226822.58
89 Y	1309375.30	1.62	1302847.50	100.5	60 - 125		1300677.50	1293881.80	1333566.90
115 In	1309326.50	0.65	1366177.60	95.8	60 - 125		1300307.80	1317151.10	1310520.80
159 Tb	1856590.60	0.67	2052817.90	90.4	60 - 125		1842143.80	1863229.40	1864398.50
209 Bi	1155128.30	0.70	1405468.50	82.2	60 - 125		1152857.80	1148417.50	1164109.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\156_CCB.D\156_CCB.D#
 Date Acquired: Aug 27 2014 11:32 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.004068	0.004068	ug/l	76.82	#VALUE!		3.33	6.67	13.33
11 B #3	0.9802	0.9802	ug/l	10.44	#VALUE!		3570.41	3313.70	3453.73
23 Na #1	-9.351	-9.351	ug/l	16.76	#VALUE!		59024.04	58716.51	59117.44
24 Mg #1	0.5916	0.5916	ug/l	18.73	#VALUE!		2346.88	2406.90	2270.20
27 Al #1	0.5716	0.5716	ug/l	42.55	#VALUE!		2743.61	3464.49	2906.97
39 K #2	-11.02	-11.02	ug/l	6.64	#VALUE!		8475.49	8818.97	9122.45
40 Ca #1	1.896	1.896	ug/l	23.96	#VALUE!		36141.92	35457.36	35874.57
47 Ti #3	-0.05956	-0.05956	ug/l	37.48	#VALUE!		33.33	23.33	66.67
51 V #2	-0.01241	-0.01241	ug/l	83.88	#VALUE!		218.89	173.34	178.89
52 Cr #2	-0.01048	-0.01048	ug/l	29.79	#VALUE!		288.89	272.23	287.78
55 Mn #3	0.04512	0.04512	ug/l	7.12	#VALUE!		2243.53	2180.19	2206.86
56 Fe #1	1.304	1.304	ug/l	9.05	#VALUE!		15306.65	14455.96	14312.48
59 Co #3	0.0003183	0.0003183	ug/l	413.76	#VALUE!		83.34	50.00	76.67
60 Ni #2	0.02377	0.02377	ug/l	3.41	#VALUE!		75.56	74.45	75.56
63 Cu #2	-0.05593	-0.05593	ug/l	11.90	#VALUE!		234.45	264.45	226.67
66 Zn #3	0.01689	0.01689	ug/l	109.71	#VALUE!		626.69	620.03	660.03
75 As #2	0.008356	0.008356	ug/l	45.82	#VALUE!		16.67	18.33	16.00
78 Se #1	-0.04005	-0.04005	ug/l	17.48	#VALUE!		10.00	11.00	8.00
88 Sr #3	0.002682	0.002682	ug/l	41.31	#VALUE!		246.68	193.34	206.67
95 Mo #3	0.06965	0.06965	ug/l	22.96	#VALUE!		426.68	373.35	300.01
107 Ag #3	-0.001481	-0.001481	ug/l	43.21	#VALUE!		106.67	93.34	100.00
111 Cd #3	0.001708	0.001708	ug/l	227.87	#VALUE!		19.91	3.25	6.60
118 Sn #3	-0.02317	-0.02317	ug/l	24.48	#VALUE!		466.69	510.02	533.36
121 Sb #3	0.01797	0.01797	ug/l	4.16	#VALUE!		190.01	196.67	180.01
137 Ba #3	-0.0001729	-0.0001729	ug/l	1931.20	#VALUE!		26.67	50.00	30.00
202 Hg #3	0.001617	0.001617	ug/l	457.33	#VALUE!		124.67	126.00	88.67
205 Tl #3	-0.003921	-0.003921	ug/l	21.14	#VALUE!		80.00	100.00	60.00
208 Pb #3	-0.01712	-0.01712	ug/l	7.13	#VALUE!		726.73	656.69	700.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	390164.09	1.85	442436.88	88.2	60 - 125		395548.28	392989.38	381954.72
45 Sc #1	419786.22	8.80	456299.72	92.0	60 - 125		457041.09	383143.97	419173.63
45 Sc #3	696331.38	1.70	765061.25	91.0	60 - 125		709566.88	686733.38	692693.81
74 Ge #1	146869.33	5.03	153441.28	95.7	60 - 125		154409.06	139652.08	146546.86
74 Ge #2	43759.68	0.99	47804.94	91.5	60 - 125		43362.47	43695.49	44221.08
74 Ge #3	210918.05	2.37	224564.78	93.9	60 - 125		214024.08	213590.05	205140.02
89 Y #3	1232225.00	1.33	1302847.50	94.6	60 - 125		1243796.50	1239370.30	1213508.40
115 In #3	1248766.60	1.36	1366177.60	91.4	60 - 125		1260355.80	1256735.30	1229209.30
159 Tb #3	1721382.50	0.88	2052817.90	83.9	60 - 125		1723221.30	1735499.40	1705426.90
209 Bi #3	1100449.60	3.84	1405468.50	78.3	60 - 125		1122103.80	1127442.10	1051803.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\157SMPL.D\157SMPL.D#
 Date Acquired: Aug 27 2014 11:39 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-10-a
 Misc Info: 3050 1/20
 Vial Number: 4309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	4.596	1.149	ug/l	3.71	100.00		2046.83	2170.19	2063.50
11 B # 3	5.564	1.391	ug/l	1.58	1800.00		4290.57	4317.24	4317.26
23 Na # 1	51.48	12.87	ug/l	9.87	81000.00		143394.67	142798.63	143385.66
24 Mg # 1	2278.4	569.6	ug/l	2.39	81000.00		1401716.90	1408837.00	1423365.10
27 Al # 1	30668	7667	ug/l	2.55	81000.00		22415828.00	22412336.00	22761510.00
39 K # 2	1905.2	476.3	ug/l	0.79	81000.00		170034.41	170865.86	173211.98
40 Ca # 1	13696	3424	ug/l	2.32	81000.00		23125180.00	23179282.00	23638924.00
47 Ti # 3	224.4	56.1	ug/l	0.13	1620.00		68274.35	68983.57	69736.64
51 V # 2	148.8	37.2	ug/l	0.22	1800.00		96975.27	95838.61	97215.56
52 Cr # 2	144.44	36.11	ug/l	0.23	1800.00		113513.87	113060.38	114679.96
55 Mn # 3	7304	1826	ug/l	0.93	1800.00	Fail	35505736.00	35146432.00	35378484.00
56 Fe # 1	128320	32080	ug/l	2.70	81000.00		283831300.00	284106780.00	286440380.00
59 Co # 3	62	15.5	ug/l	0.44	1800.00		225893.05	227764.39	227761.25
60 Ni # 2	32.756	8.189	ug/l	0.90	1800.00		9693.72	9470.27	9602.56
63 Cu # 2	37.136	9.284	ug/l	0.42	1800.00		30085.66	29991.03	30174.67
66 Zn # 3	370.08	92.52	ug/l	0.62	1800.00		196092.98	198397.53	198553.47
75 As # 2	54.72	13.68	ug/l	2.07	100.00		4581.25	4735.29	4698.28
78 Se # 1	1.39	0.3475	ug/l	5.73	100.00		109.00	114.00	104.67
88 Sr # 3	27.52	6.88	ug/l	0.79	1800.00		209619.58	210565.50	209636.34
95 Mo # 3	4.944	1.236	ug/l	4.14	1800.00		4777.44	5230.93	5014.17
107 Ag # 3	0.27032	0.06758	ug/l	9.70	100.00		836.71	956.72	820.04
111 Cd # 3	0.9356	0.2339	ug/l	8.68	100.00		568.98	612.21	515.58
118 Sn # 3	5.252	1.313	ug/l	3.75	1800.00		10226.61	11033.81	10480.11
121 Sb # 3	1.2448	0.3112	ug/l	4.23	100.00		2877.00	2937.01	2716.97
137 Ba # 3	331.92	82.98	ug/l	0.36	1800.00		328819.13	330294.97	332511.56
202 Hg # 3	0.036532	0.009133	ug/l	99.05	5.00		134.00	125.00	175.69
205 Tl # 3	0.6088	0.1522	ug/l	2.69	20.00		3973.99	4154.01	3957.29
208 Pb # 3	311.88	77.97	ug/l	0.29	1800.00		2668043.00	2688957.50	2691939.30
232 Th # 3	12.768	3.192	ug/l	0.99	#VALUE!		110274.50	114646.94	112887.89
238 U # 3	3.2328	0.8082	ug/l	1.03	#VALUE!		29014.99	30200.42	29766.20

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	421217.22	0.73	442436.88	95.2	60 - 125		420337.63	418679.19	424634.88
45 Sc # 1	459118.69	2.99	456299.72	100.6	60 - 125		443543.59	464286.94	469525.59
45 Sc # 3	834439.88	0.93	765061.25	109.1	60 - 125		826928.81	833926.06	842464.63
74 Ge # 1	148008.81	1.71	153441.28	96.5	60 - 125		145110.38	149167.86	149748.22
74 Ge # 2	44782.89	0.72	47804.94	93.7	60 - 125		44809.27	44449.45	45089.95
74 Ge # 3	225806.72	0.43	224564.78	100.6	60 - 125		225213.92	226921.56	225284.61
89 Y # 3	1569202.40	0.71	1302847.50	120.4	60 - 125		1559119.50	1567282.00	1581205.60
115 In # 3	1336306.90	0.57	1366177.60	97.8	60 - 125		1327452.50	1340749.10	1340718.90
159 Tb # 3	1865516.40	0.22	2052817.90	90.9	60 - 125		1860923.90	1868869.80	1866755.40
209 Bi # 3	1177649.60	1.13	1405468.50	83.8	60 - 125		1162311.30	1185801.40	1184836.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\158SMPL.D\158SMPL.D#
 Date Acquired: Aug 27 2014 11:47 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-11-a
 Misc Info: 3050 1/20
 Vial Number: 4310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 4.00
 Autodil Factor: Undiluted
 Final Dil Factor: 4.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	3.7452	0.9363	ug/l	7.30	100.00		1503.43	1473.43	1540.10
11 B # 3	2.5312	0.6328	ug/l	39.16	1800.00		2740.26	2896.95	2873.64
23 Na # 1	-5.112	-1.278	ug/l	26.62	81000.00		88328.76	88616.55	88733.59
24 Mg # 1	1146	286.5	ug/l	1.53	81000.00		670719.06	676567.56	676492.63
27 Al # 1	28588	7147	ug/l	1.02	81000.00		19952896.00	20067504.00	19810364.00
39 K # 2	1330.8	332.7	ug/l	1.11	81000.00		109704.13	112147.60	112295.43
40 Ca # 1	5892	1473	ug/l	0.35	81000.00		9612377.00	9541376.00	9463758.00
47 Ti # 3	167.68	41.92	ug/l	12.52	1620.00		43373.80	44560.01	43925.50
51 V # 2	165.36	41.34	ug/l	0.02	1800.00		96405.70	97350.78	96776.63
52 Cr # 2	143.68	35.92	ug/l	0.81	1800.00		101182.00	101990.79	102901.38
55 Mn # 3	4164	1041	ug/l	9.94	1800.00		17619804.00	17866444.00	17862380.00
56 Fe # 1	131520	32880	ug/l	0.59	81000.00		278519740.00	277391580.00	275622080.00
59 Co # 3	44.6	11.15	ug/l	9.60	1800.00		143468.91	144475.41	144995.78
60 Ni # 2	28.36	7.09	ug/l	0.88	1800.00		7502.69	7453.78	7517.15
63 Cu # 2	16.944	4.236	ug/l	0.29	1800.00		12516.55	12688.88	12549.90
66 Zn # 3	96.96	24.24	ug/l	10.90	1800.00		45677.21	46893.92	45794.33
75 As # 2	52.16	13.04	ug/l	2.19	100.00		4085.13	3947.44	4011.12
78 Se # 1	0.9132	0.2283	ug/l	4.82	100.00		73.00	77.00	73.33
88 Sr # 3	14.612	3.653	ug/l	11.34	1800.00		96878.05	97678.81	96586.10
95 Mo # 3	4.408	1.102	ug/l	13.98	1800.00		3840.54	3997.24	4167.29
107 Ag # 3	0.08728	0.02182	ug/l	24.96	100.00		306.68	286.68	390.02
111 Cd # 3	0.2638	0.06595	ug/l	22.78	100.00		125.83	155.79	155.76
118 Sn # 3	3.1456	0.7864	ug/l	13.72	1800.00		5767.79	5834.50	6164.62
121 Sb # 3	1.0552	0.2638	ug/l	9.83	100.00		2180.20	2093.52	2223.54
137 Ba # 3	154.32	38.58	ug/l	12.14	1800.00		137273.89	137737.20	137415.16
202 Hg # 3	0.028644	0.007161	ug/l	69.71	5.00		129.34	116.00	145.34
205 Tl # 3	0.38056	0.09514	ug/l	13.68	20.00		2410.27	2446.93	2376.92
208 Pb # 3	83.8	20.95	ug/l	12.49	1800.00		665021.75	676802.38	675778.00
232 Th # 3	17.304	4.326	ug/l	11.85	#VALUE!		139709.53	141829.77	141754.08
238 U # 3	3.5084	0.8771	ug/l	12.86	#VALUE!		28987.90	30070.26	30200.59

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	372966.44	8.25	442436.88	84.3	60 - 125		402555.03	341158.47	375185.81
45 Sc # 1	435786.50	1.06	456299.72	95.5	60 - 125		440860.91	434629.28	431869.25
45 Sc # 3	717556.88	11.18	765061.25	93.8	60 - 125		799942.50	639662.94	713065.25
74 Ge # 1	140123.23	0.94	153441.28	91.3	60 - 125		141649.20	139369.17	139351.31
74 Ge # 2	40377.94	0.48	47804.94	84.5	60 - 125		40200.88	40581.73	40351.22
74 Ge # 3	200551.05	9.14	224564.78	89.3	60 - 125		217824.36	181303.27	202525.53
89 Y # 3	1376252.80	10.79	1302847.50	105.6	60 - 125		1524999.50	1227919.90	1375839.00
115 In # 3	1206691.40	11.66	1366177.60	88.3	60 - 125		1339081.50	1058905.30	1222087.50
159 Tb # 3	1754809.80	11.47	2052817.90	85.5	60 - 125		1950067.30	1547903.10	1766458.80
209 Bi # 3	1099056.50	11.07	1405468.50	78.2	60 - 125		1221494.30	978006.13	1097669.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\159SMPL.D\159SMPL.D#
 Date Acquired: Aug 27 2014 11:54 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-12-a
 Misc Info: 3050 1/50
 Vial Number: 4311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	7.277	0.7277	ug/l	10.78	100.00		980.05	1163.39	1230.07
11 B # 3	1.856	0.1856	ug/l	38.51	1800.00		2176.85	2100.17	2286.86
23 Na # 1	-83.88	-8.388	ug/l	58.69	81000.00		55727.70	55670.68	55824.76
24 Mg # 1	1407	140.7	ug/l	28.16	81000.00		275826.69	291266.16	286233.25
27 Al # 1	45580	4558	ug/l	27.89	81000.00		10593026.00	11146083.00	10975417.00
39 K # 2	989.9	98.99	ug/l	1.00	81000.00		38379.73	39170.99	39551.91
40 Ca # 1	5081	508.1	ug/l	27.61	81000.00		2778237.80	2890099.00	2843959.30
47 Ti # 3	209.5	20.95	ug/l	3.06	1620.00		21307.25	20585.04	20334.86
51 V # 2	380.6	38.06	ug/l	0.64	1800.00		84294.69	84758.89	84576.99
52 Cr # 2	308.5	30.85	ug/l	0.83	1800.00		83054.96	82955.70	83291.70
55 Mn # 3	6247	624.7	ug/l	1.29	1800.00		10299902.00	10234955.00	10359532.00
56 Fe # 1	342800	34280	ug/l	28.57	81000.00		239288320.00	255110660.00	248009890.00
59 Co # 3	76.66	7.666	ug/l	1.34	1800.00		96011.37	95046.43	96161.80
60 Ni # 2	47.17	4.717	ug/l	1.11	1800.00		4748.43	4747.32	4720.64
63 Cu # 2	19.57	1.957	ug/l	2.08	1800.00		5546.43	5848.74	5730.94
66 Zn # 3	133	13.3	ug/l	2.56	1800.00		25047.52	24162.99	24793.86
75 As # 2	115.3	11.53	ug/l	1.23	100.00		3374.65	3381.32	3344.65
78 Se # 1	1.16	0.116	ug/l	55.54	100.00		43.00	48.33	35.33
88 Sr # 3	13.78	1.378	ug/l	0.87	1800.00		33642.31	34006.17	33518.59
95 Mo # 3	8.998	0.8998	ug/l	6.18	1800.00		3397.09	3287.06	3080.35
107 Ag # 3	0.06853	0.006853	ug/l	44.05	100.00		156.67	160.01	213.34
111 Cd # 3	0.3792	0.03792	ug/l	19.85	100.00		102.59	82.61	72.66
118 Sn # 3	2.929	0.2929	ug/l	7.36	1800.00		2650.28	2640.28	2446.91
121 Sb # 3	2.226	0.2226	ug/l	4.75	100.00		1803.49	1713.48	1920.16
137 Ba # 3	359.2	35.92	ug/l	1.86	1800.00		126373.52	127932.08	125876.20
202 Hg # 3	0.04696	0.004696	ug/l	43.83	5.00		114.67	127.34	124.00
205 Tl # 3	0.6009	0.06009	ug/l	2.06	20.00		1600.14	1580.13	1553.45
208 Pb # 3	114.8	11.48	ug/l	1.35	1800.00		366063.75	365574.88	369958.78
232 Th # 3	26.14	2.614	ug/l	4.48	#VALUE!		86458.69	87557.56	84773.26
238 U # 3	8.741	0.8741	ug/l	4.47	#VALUE!		29699.63	30724.81	29535.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	356743.63	0.79	442436.88	80.6	60 - 125		353739.38	357174.06	359317.50
45 Sc # 1	392651.34	26.36	456299.72	86.1	60 - 125		503660.16	298712.94	375580.88
45 Sc # 3	669849.50	0.61	765061.25	87.6	60 - 125		665123.56	671996.06	672428.81
74 Ge # 1	130741.89	22.02	153441.28	85.2	60 - 125		161091.88	103818.84	127314.96
74 Ge # 2	38276.70	0.86	47804.94	80.1	60 - 125		37895.90	38440.36	38493.84
74 Ge # 3	192353.36	0.71	224564.78	85.7	60 - 125		191743.06	193925.97	191391.03
89 Y # 3	1253804.50	0.44	1302847.50	96.2	60 - 125		1259927.00	1252276.60	1249209.60
115 In # 3	1183530.50	1.16	1366177.60	86.6	60 - 125		1176470.30	1174833.10	1199288.40
159 Tb # 3	1728404.90	0.93	2052817.90	84.2	60 - 125		1716437.00	1746718.10	1722059.40
209 Bi # 3	1101982.30	3.06	1405468.50	78.4	60 - 125		1078338.60	1086951.10	1140657.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\160SMPL.D\160SMPL.D#
 Date Acquired: Aug 27 2014 12:02 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104534-b-13-a
 Misc Info: 3050 1/50
 Vial Number: 4312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 10.00
 Autodil Factor: Undiluted
 Final Dil Factor: 10.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	5.88	0.588	ug/l	6.92	100.00		903.38	833.37	953.38
11 B #3	1.132	0.1132	ug/l	18.46	1800.00		2066.83	2056.83	2096.84
23 Na #1	-86.21	-8.621	ug/l	2.77	81000.00		55530.36	55389.84	55082.60
24 Mg #1	1457	145.7	ug/l	0.70	81000.00		294278.44	297365.00	300473.19
27 Al #1	41490	4149	ug/l	0.92	81000.00		10013865.00	10019412.00	10023380.00
39 K #2	1195	119.5	ug/l	29.91	81000.00		42949.50	42418.35	44128.70
40 Ca #1	5420	542	ug/l	0.66	81000.00		3040172.50	3057008.00	3054060.80
47 Ti #3	202.4	20.24	ug/l	2.84	1620.00		19987.76	19083.48	19971.05
51 V #2	318.6	31.86	ug/l	23.73	1800.00		67690.23	66135.12	70206.05
52 Cr #2	259.4	25.94	ug/l	24.05	1800.00		67314.59	64732.41	69333.20
55 Mn #3	5196	519.6	ug/l	1.17	1800.00		8526899.00	8412689.00	8478050.00
56 Fe #1	274100	27410	ug/l	1.69	81000.00		201680140.00	199495630.00	198734780.00
59 Co #3	97.44	9.744	ug/l	0.98	1800.00		120972.42	119774.62	120288.40
60 Ni #2	44.12	4.412	ug/l	21.99	1800.00		4407.23	4134.94	4266.08
63 Cu #2	20.98	2.098	ug/l	25.50	1800.00		5854.30	5644.24	6044.37
66 Zn #3	148.2	14.82	ug/l	1.26	1800.00		27434.38	27093.79	26856.87
75 As #2	96.66	9.666	ug/l	23.71	100.00		2727.21	2621.86	2790.55
78 Se #1	0.9818	0.09818	ug/l	15.87	100.00		39.67	41.33	34.67
88 Sr #3	13.99	1.399	ug/l	0.96	1800.00		33588.65	33568.88	33692.40
95 Mo #3	8.188	0.8188	ug/l	2.88	1800.00		2866.98	2947.00	3033.68
107 Ag #3	0.06899	0.006899	ug/l	31.70	100.00		176.67	153.34	196.67
111 Cd #3	0.3085	0.03085	ug/l	44.05	100.00		69.37	99.35	42.67
118 Sn #3	3.315	0.3315	ug/l	3.53	1800.00		2900.34	2793.65	2750.30
121 Sb #3	1.911	0.1911	ug/l	4.67	100.00		1580.12	1593.46	1470.10
137 Ba #3	186.2	18.62	ug/l	1.10	1800.00		66034.78	64362.27	65202.28
202 Hg #3	0.0362	0.00362	ug/l	100.19	5.00		125.67	122.67	106.34
205 Tl #3	0.03648	0.03648	ug/l	5.64	20.00		973.39	1083.40	1000.06
208 Pb #3	162.2	16.22	ug/l	1.07	1800.00		512781.75	514537.69	516180.00
232 Th #3	25.93	2.593	ug/l	0.61	#VALUE!		84141.89	83475.94	82674.35
238 U #3	6.849	0.6849	ug/l	0.64	#VALUE!		23057.96	23104.54	22593.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	352250.34	0.20	442436.88	79.6	60 - 125		352428.59	352856.91	351465.53
45 Sc #1	377087.25	0.95	456299.72	82.6	60 - 125		373015.06	379786.03	378460.66
45 Sc #3	657768.13	0.21	765061.25	86.0	60 - 125		657423.63	659279.69	656601.06
74 Ge #1	126083.53	0.43	153441.28	82.2	60 - 125		125592.84	126669.11	125988.64
74 Ge #2	37982.25	20.53	47804.94	79.5	60 - 125		37587.47	45967.95	30391.34
74 Ge #3	190243.94	0.53	224564.78	84.7	60 - 125		189677.59	191401.09	189653.14
89 Y #3	1231582.10	1.09	1302847.50	94.5	60 - 125		1217661.60	1232502.80	1244581.80
115 In #3	1174319.90	0.26	1366177.60	86.0	60 - 125		1175438.90	1170890.60	1176630.00
159 Tb #3	1716757.10	0.98	2052817.90	83.6	60 - 125		1709022.40	1736126.30	1705122.60
209 Bi #3	1073707.50	0.62	1405468.50	76.4	60 - 125		1075458.00	1079303.40	1066361.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\161SMPL.D\161SMPL.D#
 Date Acquired: Aug 27 2014 12:09 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 640-48966-b-1-aSD
 Misc Info: 3005 1/5
 Vial Number: 2511
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babb2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 bahnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0008512	0.0008512	ug/l	145.44	100.00		3.33	3.33	0.00
11 B #3	2.603	2.603	ug/l	3.96	1800.00		5004.10	5277.51	5204.17
23 Na #1	4040	4040	ug/l	0.55	81000.00		11128232.00	11289286.00	11393012.00
24 Mg #1	657.6	657.6	ug/l	1.09	81000.00		1272062.60	1295473.50	1268602.30
27 Al #1	8.308	8.308	ug/l	1.56	81000.00		20431.37	20781.70	20227.72
39 K #2	239.5	239.5	ug/l	1.36	81000.00		75758.32	77047.37	78968.11
40 Ca #1	788.5	788.5	ug/l	0.66	81000.00		4195446.50	4275874.00	4217951.00
47 Ti #3	0.02841	0.02841	ug/l	192.29	1620.00		166.68	123.34	66.67
51 V #2	0.07533	0.07533	ug/l	11.20	1800.00		330.01	363.34	365.56
52 Cr #2	0.05639	0.05639	ug/l	12.47	1800.00		398.90	434.45	418.90
55 Mn #3	1.432	1.432	ug/l	0.91	1800.00		24857.08	24963.85	25244.31
56 Fe #1	50.83	50.83	ug/l	1.20	81000.00		358200.03	359767.66	355092.84
59 Co #3	0.004398	0.004398	ug/l	15.21	1800.00		123.34	106.67	116.67
60 Ni #2	0.1244	0.1244	ug/l	9.81	1800.00		148.89	172.22	165.56
63 Cu #2	-0.02738	-0.02738	ug/l	33.90	1800.00		307.78	258.89	282.23
66 Zn #3	0.3644	0.3644	ug/l	19.67	1800.00		1076.73	1243.41	1333.42
75 As #2	0.05996	0.05996	ug/l	11.14	100.00		27.00	29.33	31.33
78 Se #1	-0.04688	-0.04688	ug/l	13.32	100.00		7.67	7.67	5.33
88 Sr #3	6.087	6.087	ug/l	1.53	1800.00		134906.50	137621.59	137261.36
95 Mo #3	0.01612	0.01612	ug/l	36.87	1800.00		143.34	183.34	156.67
107 Ag #3	-0.003742	-0.003742	ug/l	74.61	100.00		66.67	103.34	50.00
111 Cd #3	0.00452	0.00452	ug/l	110.38	100.00		19.97	3.29	23.30
118 Sn #3	-0.04686	-0.04686	ug/l	23.20	1800.00		390.01	243.34	336.68
121 Sb #3	0.004489	0.004489	ug/l	43.11	100.00		60.00	66.67	90.00
137 Ba #3	1.036	1.036	ug/l	2.27	1800.00		3657.19	3700.51	3827.21
202 Hg #3	-0.01709	-0.01709	ug/l	10.85	5.00		56.33	59.67	66.67
205 Tl #3	-0.004796	-0.004796	ug/l	6.41	20.00		66.67	56.67	53.33
208 Pb #3	-0.004003	-0.004003	ug/l	38.12	1800.00		1150.31	1056.71	1093.39
232 Th #3	0.03681	0.03681	ug/l	8.32	#VALUE!		1473.45	1436.78	1296.76
238 U #3	0.003521	0.003521	ug/l	12.45	#VALUE!		153.34	126.67	143.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	359732.50	0.32	442436.88	81.3	60 - 125		358412.47	360345.19	360439.78
45 Sc #1	360192.25	0.90	456299.72	78.9	60 - 125		356475.41	362254.78	361846.59
45 Sc #3	631969.19	0.83	765061.25	82.6	60 - 125		629669.63	628290.63	637947.38
74 Ge #1	127217.26	0.61	153441.28	82.9	60 - 125		126405.98	127290.06	127955.73
74 Ge #2	37410.90	1.15	47804.94	78.3	60 - 125		37181.15	37143.32	37908.22
74 Ge #3	193512.75	0.06	224564.78	86.2	60 - 125		193577.66	193589.39	193371.19
89 Y #3	1153904.30	1.09	1302847.50	88.6	60 - 125		1155466.60	1165621.80	1140624.50
115 In #3	1196324.50	0.43	1366177.60	87.6	60 - 125		1198934.60	1190334.80	1199704.00
159 Tb #3	1704344.60	0.36	2052817.90	83.0	60 - 125		1700702.60	1700809.10	1711522.00
209 Bi #3	1070976.50	0.84	1405468.50	76.2	60 - 125		1061299.80	1079160.90	1072469.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26H00.B\162SMPL.D\162SMPL.D#
 Date Acquired: Aug 27 2014 12:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104558-d-4-a
 Misc Info: 3005 1/10
 Vial Number: 2512
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 2.00
 Autodil Factor: Undiluted
 Final Dil Factor: 2.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00153	0.000765	ug/l	304.18	100.00		0.00	6.67	0.00
11 B # 3	791	395.5	ug/l	1.11	1800.00		514582.19	510705.78	520509.69
23 Na # 1	103280	51640	ug/l	0.85	81000.00		152475790.00	152667790.00	154772370.00
24 Mg # 1	39540	19770	ug/l	0.51	81000.00		41166220.00	40872152.00	41390812.00
27 Al # 1	3.394	1.697	ug/l	13.06	81000.00		6214.80	5474.26	5127.51
39 K # 2	6268	3134	ug/l	0.96	81000.00		911571.44	930693.75	940246.75
40 Ca # 1	92900	46450	ug/l	0.34	81000.00		265450080.00	264638180.00	266696290.00
47 Ti # 3	0.0482	0.0241	ug/l	134.23	1620.00		160.01	100.00	113.34
51 V # 2	0.17114	0.08557	ug/l	4.73	1800.00		384.45	391.12	406.67
52 Cr # 2	0.08922	0.04461	ug/l	21.71	1800.00		423.34	416.68	377.79
55 Mn # 3	534.8	267.4	ug/l	0.29	1800.00		4603890.50	4615196.00	4696989.50
56 Fe # 1	639.2	319.6	ug/l	0.51	81000.00		2392268.80	2396118.50	2378166.80
59 Co # 3	0.2844	0.1422	ug/l	6.78	1800.00		1770.14	2023.49	2000.17
60 Ni # 2	0.7808	0.3904	ug/l	7.44	1800.00		473.34	426.68	426.68
63 Cu # 2	-0.1062	-0.0531	ug/l	5.04	1800.00		215.56	232.23	227.78
66 Zn # 3	1.9264	0.9632	ug/l	3.11	1800.00		2446.90	2416.90	2383.56
75 As # 2	0.3822	0.1911	ug/l	10.02	100.00		63.67	75.67	70.33
78 Se # 1	-0.08694	-0.04347	ug/l	20.47	100.00		8.33	5.67	9.67
88 Sr # 3	1709.2	854.6	ug/l	0.13	1800.00		20059224.00	20163234.00	20451848.00
95 Mo # 3	0.03196	0.01598	ug/l	56.85	1800.00		153.34	133.34	200.01
107 Ag # 3	-0.00696	-0.00348	ug/l	41.18	100.00		60.00	86.67	83.34
111 Cd # 3	0.006926	0.003463	ug/l	155.88	100.00		26.63	6.64	6.62
118 Sn # 3	-0.0873	-0.04365	ug/l	12.85	1800.00		356.68	303.34	383.35
121 Sb # 3	0.010994	0.005497	ug/l	65.98	100.00		96.67	46.67	100.00
137 Ba # 3	2.496	1.248	ug/l	1.28	1800.00		4520.77	4530.77	4507.39
202 Hg # 3	-0.0424	-0.0212	ug/l	11.03	5.00		55.33	51.67	43.33
205 Tl # 3	-0.011546	-0.005773	ug/l	5.15	20.00		43.33	36.67	30.00
208 Pb # 3	-0.02512	-0.01256	ug/l	7.54	1800.00		836.71	810.03	870.04
232 Th # 3	0.03786	0.01893	ug/l	3.48	#VALUE!		746.71	793.38	783.38
238 U # 3	0.06818	0.03409	ug/l	5.36	#VALUE!		1073.41	1143.41	1030.07

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	381694.09	1.16	442436.88	86.3	60 - 125		376920.50	382447.53	385714.25
45 Sc # 1	385747.13	0.23	456299.72	84.5	60 - 125		386563.63	384824.16	385853.69
45 Sc # 3	684023.44	0.96	765061.25	89.4	60 - 125		677570.00	683780.13	690720.25
74 Ge # 1	131234.72	0.38	153441.28	85.5	60 - 125		130726.24	131248.80	131729.11
74 Ge # 2	39298.91	0.63	47804.94	82.2	60 - 125		39027.29	39360.11	39509.33
74 Ge # 3	202345.02	1.07	224564.78	90.1	60 - 125		200396.22	201979.14	204659.70
89 Y # 3	1218155.00	0.95	1302847.50	93.5	60 - 125		1209938.40	1213196.50	1231330.30
115 In # 3	1206251.10	1.03	1366177.60	88.3	60 - 125		1199361.40	1198747.30	1220644.60
159 Tb # 3	1720155.90	0.74	2052817.90	83.8	60 - 125		1705536.90	1727176.10	1727754.80
209 Bi # 3	998919.56	0.67	1405468.50	71.1	60 - 125		991250.38	1002408.40	1003100.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\163SMPL.D\163SMPL.D#
 Date Acquired: Aug 27 2014 12:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345896_1-b
 Misc Info: 3005 1/5
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	6.348E-005	6.348E-005	ug/l	1750.20	100.00		0.00	3.33	0.00
11 B # 3	5.047	5.047	ug/l	2.65	1800.00		9005.65	8858.93	8388.66
23 Na # 1	-7.37	-7.37	ug/l	1.90	81000.00		63247.52	62561.71	63525.10
24 Mg # 1	0.7632	0.7632	ug/l	2.64	81000.00		2623.59	2683.59	2606.92
27 Al # 1	1.419	1.419	ug/l	2.94	81000.00		5060.80	5254.19	5124.16
39 K # 2	-0.5903	-0.5903	ug/l	2757.90	81000.00		16993.96	8775.59	8298.71
40 Ca # 1	6.693	6.693	ug/l	1.23	81000.00		63754.32	63406.80	62707.58
47 Ti # 3	-0.001154	-0.001154	ug/l	1561.50	1620.00		113.34	80.00	100.00
51 V # 2	0.16	0.16	ug/l	8.79	1800.00		544.46	612.24	596.68
52 Cr # 2	0.04851	0.04851	ug/l	34.65	1800.00		483.34	422.23	391.12
55 Mn # 3	0.03957	0.03957	ug/l	22.19	1800.00		1983.51	2023.50	2080.18
56 Fe # 1	1.054	1.054	ug/l	2.84	81000.00		12374.88	11930.87	12361.07
59 Co # 3	-0.001602	-0.001602	ug/l	1.07	1800.00		43.33	43.33	40.00
60 Ni # 2	0.07788	0.07788	ug/l	13.75	1800.00		137.78	128.89	115.56
63 Cu # 2	-0.0473	-0.0473	ug/l	12.31	1800.00		256.67	232.23	262.23
66 Zn # 3	0.2178	0.2178	ug/l	22.10	1800.00		1033.39	930.05	1023.40
75 As # 2	0.05372	0.05372	ug/l	27.63	100.00		29.33	25.67	34.67
78 Se # 1	-0.05161	-0.05161	ug/l	11.90	100.00		5.00	8.00	6.33
88 Sr # 3	0.01511	0.01511	ug/l	17.11	1800.00		466.68	490.02	543.36
95 Mo # 3	0.005612	0.005612	ug/l	63.45	1800.00		116.67	130.00	133.34
107 Ag # 3	-0.004783	-0.004783	ug/l	55.03	100.00		90.00	36.67	66.67
111 Cd # 3	-0.001207	-0.001207	ug/l	5.40	100.00		3.31	3.30	3.30
118 Sn # 3	-0.01033	-0.01033	ug/l	24.64	1800.00		586.69	586.69	573.36
121 Sb # 3	0.004198	0.004198	ug/l	52.03	100.00		56.67	70.00	86.67
137 Ba # 3	0.01776	0.01776	ug/l	20.49	1800.00		93.34	96.67	110.00
202 Hg # 3	-0.02117	-0.02117	ug/l	3.54	5.00		53.00	49.33	48.33
205 Tl # 3	-0.005297	-0.005297	ug/l	9.24	20.00		36.67	60.00	46.67
208 Pb # 3	-0.01119	-0.01119	ug/l	24.22	1800.00		850.04	866.71	923.39
232 Th # 3	0.02146	0.02146	ug/l	4.70	#VALUE!		920.06	956.72	890.06
238 U # 3	-0.0001306	-0.0001306	ug/l	209.04	#VALUE!		30.00	20.00	10.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	386414.97	4.73	442436.88	87.3	60 - 125		393265.56	400256.41	365722.91
45 Sc # 1	403574.75	0.19	456299.72	88.4	60 - 125		404390.22	402865.28	403468.72
45 Sc # 3	676062.13	4.60	765061.25	88.4	60 - 125		690601.56	697265.50	640319.25
74 Ge # 1	140125.55	0.86	153441.28	91.3	60 - 125		140799.13	140851.64	138725.91
74 Ge # 2	40762.86	0.46	47804.94	85.3	60 - 125		40598.41	40967.04	40723.13
74 Ge # 3	203281.55	5.07	224564.78	90.5	60 - 125		209060.36	209408.77	191375.50
89 Y # 3	1204967.10	4.28	1302847.50	92.5	60 - 125		1224046.40	1244246.30	1146609.00
115 In # 3	1225618.00	4.25	1366177.60	89.7	60 - 125		1250408.80	1260695.30	1165750.30
159 Tb # 3	1721632.90	5.16	2052817.90	83.9	60 - 125		1771883.10	1773997.90	1619017.80
209 Bi # 3	1085328.60	6.33	1405468.50	77.2	60 - 125		1115043.80	1134117.60	1006824.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\164SMPL.D\164SMPL.D#
 Date Acquired: Aug 27 2014 12:31 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345896_2-b
 Misc Info: 3005 1/5
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.929	9.929	ug/l	1.02	100.00		16840.90	16664.05	17064.48
11 B # 3	41.67	41.67	ug/l	0.79	1800.00		57678.79	57247.44	58320.63
23 Na # 1	1060	1060	ug/l	1.05	81000.00		3224765.30	3283348.50	3266678.80
24 Mg # 1	1073	1073	ug/l	0.82	81000.00		2263292.50	2274091.30	2231331.80
27 Al # 1	1072	1072	ug/l	0.83	81000.00		2664839.30	2701860.50	2657414.50
39 K # 2	1009	1009	ug/l	0.56	81000.00		303054.53	307189.59	309986.47
40 Ca # 1	1111	1111	ug/l	0.32	81000.00		6424583.00	6455410.00	6435723.00
47 Ti # 3	20.26	20.26	ug/l	2.19	1620.00		20872.06	20211.42	20137.90
51 V # 2	20.39	20.39	ug/l	0.65	1800.00		45989.50	46824.97	47181.47
52 Cr # 2	20.61	20.61	ug/l	0.39	1800.00		56494.94	57380.82	57662.79
55 Mn # 3	108.4	108.4	ug/l	1.06	1800.00		1875008.10	1860204.10	1886373.30
56 Fe # 1	1109	1109	ug/l	0.18	81000.00		8360985.50	8363973.00	8360555.50
59 Co # 3	10.54	10.54	ug/l	0.53	1800.00		137513.61	137789.02	138630.70
60 Ni # 2	21.42	21.42	ug/l	1.92	1800.00		22019.79	21568.21	22330.16
63 Cu # 2	20.33	20.33	ug/l	0.27	1800.00		57037.53	57507.84	57834.45
66 Zn # 3	19.47	19.47	ug/l	1.21	1800.00		37782.76	37702.49	37295.11
75 As # 2	20.06	20.06	ug/l	1.31	100.00		6004.33	5946.98	6093.03
78 Se # 1	19.17	19.17	ug/l	0.26	100.00		4450.89	4462.22	4485.56
88 Sr # 3	19.06	19.06	ug/l	1.13	1800.00		443893.78	448560.41	444579.06
95 Mo # 3	20.34	20.34	ug/l	1.70	1800.00		75035.25	74767.25	74352.07
107 Ag # 3	10.15	10.15	ug/l	1.29	100.00		103678.13	104694.63	104130.69
111 Cd # 3	9.786	9.786	ug/l	1.18	100.00		21784.25	21437.28	21851.15
118 Sn # 3	40.41	40.41	ug/l	1.25	1800.00		282966.97	280413.88	282600.22
121 Sb # 3	9.824	9.824	ug/l	0.44	100.00		81692.76	81552.44	82931.97
137 Ba # 3	19.72	19.72	ug/l	2.19	1800.00		72364.40	73954.05	72173.41
202 Hg # 3	0.8448	0.8448	ug/l	1.13	5.00		2455.53	2486.87	2514.54
205 Tl # 3	7.546	7.546	ug/l	0.08	20.00		178800.69	180604.30	179683.45
208 Pb # 3	9.652	9.652	ug/l	0.40	1800.00		313395.09	314038.28	314543.19
232 Th # 3	10.61	10.61	ug/l	0.59	#VALUE!		339443.63	337898.50	344230.69
238 U # 3	10.33	10.33	ug/l	0.16	#VALUE!		343642.59	344571.41	347170.84

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392452.53	0.37	442436.88	88.7	60 - 125		391040.78	392401.91	393914.88
45 Sc # 1	389461.44	0.19	456299.72	85.4	60 - 125		390045.69	389707.63	388631.03
45 Sc # 3	681131.94	0.26	765061.25	89.0	60 - 125		679534.06	683048.63	680813.06
74 Ge # 1	133773.08	0.45	153441.28	87.2	60 - 125		133596.75	133272.06	134450.41
74 Ge # 2	39357.61	0.71	47804.94	82.3	60 - 125		39035.06	39507.19	39530.59
74 Ge # 3	201625.09	0.66	224564.78	89.8	60 - 125		200095.33	202560.48	202219.48
89 Y # 3	1203543.80	1.15	1302847.50	92.4	60 - 125		1188847.10	1205612.60	1216171.80
115 In # 3	1238736.90	1.26	1366177.60	90.7	60 - 125		1227223.50	1232529.80	1256457.10
159 Tb # 3	1757441.40	0.45	2052817.90	85.6	60 - 125		1750233.50	1765765.80	1756325.00
209 Bi # 3	1073353.10	0.41	1405468.50	76.4	60 - 125		1070618.30	1071027.00	1078414.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\165SMPL.D\165SMPL.D#
 Date Acquired: Aug 27 2014 12:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-1-d
 Misc Info: 3005 1/5
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0006989	0.0006989	ug/l	158.39	100.00		0.00	3.33	3.33
11 B #3	9.73	9.73	ug/l	4.11	1800.00		15489.81	15233.02	15566.56
23 Na #1	6243	6243	ug/l	0.77	81000.00		19180504.00	19282932.00	19162742.00
24 Mg #1	2486	2486	ug/l	0.80	81000.00		5346056.50	5350801.00	5327793.00
27 Al #1	1.228	1.228	ug/l	2.36	81000.00		4577.34	4654.00	4540.68
39 K #2	305.4	305.4	ug/l	0.63	81000.00		101846.35	101615.41	103230.91
40 Ca #1	14680	14680	ug/l	0.26	81000.00		86226456.00	86758592.00	86957224.00
47 Ti #3	0.08839	0.08839	ug/l	30.05	1620.00		206.67	173.34	203.34
51 V #2	0.1896	0.1896	ug/l	9.70	1800.00		593.35	645.57	687.80
52 Cr #2	0.05008	0.05008	ug/l	29.35	1800.00		388.90	421.12	476.68
55 Mn #3	241.3	241.3	ug/l	3.03	1800.00		4303588.00	4332416.00	4376983.50
56 Fe #1	7.881	7.881	ug/l	0.25	81000.00		64368.57	64699.75	64897.13
59 Co #3	0.1187	0.1187	ug/l	5.94	1800.00		1780.13	1660.12	1603.45
60 Ni #2	0.3357	0.3357	ug/l	6.16	1800.00		386.67	416.68	376.67
63 Cu #2	-0.003909	-0.003909	ug/l	28.52	1800.00		366.67	366.67	375.56
66 Zn #3	1.091	1.091	ug/l	5.01	1800.00		2860.31	2746.94	2663.61
75 As #2	0.4464	0.4464	ug/l	0.68	100.00		146.67	149.00	150.67
78 Se #1	-0.0003607	-0.0003607	ug/l	1280.30	100.00		19.67	18.00	17.67
88 Sr #3	63.62	63.62	ug/l	4.54	1800.00		1528501.90	1513134.40	1531828.00
95 Mo #3	1.216	1.216	ug/l	8.44	1800.00		4464.01	4484.01	4834.14
107 Ag #3	-0.004829	-0.004829	ug/l	15.73	100.00		56.67	76.67	63.34
111 Cd #3	0.00388	0.00388	ug/l	86.70	100.00		12.35	9.01	22.27
118 Sn #3	-0.01361	-0.01361	ug/l	68.58	1800.00		593.36	520.02	593.37
121 Sb #3	0.01549	0.01549	ug/l	10.27	100.00		180.01	163.34	160.01
137 Ba #3	31.92	31.92	ug/l	5.30	1800.00		116624.26	118511.84	120870.82
202 Hg #3	-0.01817	-0.01817	ug/l	27.85	5.00		67.67	46.00	67.00
205 Tl #3	0.004811	0.004811	ug/l	9.30	20.00		300.01	296.68	283.35
208 Pb #3	5.163	5.163	ug/l	4.44	1800.00		170840.45	170130.47	171491.17
232 Th #3	0.1307	0.1307	ug/l	6.51	#VALUE!		4687.52	4604.17	4104.01
238 U #3	0.05914	0.05914	ug/l	7.22	#VALUE!		1940.18	2013.53	2100.21

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	400218.78	2.44	442436.88	90.5	60 - 125		395789.22	411431.59	393435.50
45 Sc #1	398260.09	0.61	456299.72	87.3	60 - 125		396010.22	397939.00	400830.97
45 Sc #3	706072.13	5.36	765061.25	92.3	60 - 125		695373.56	748119.25	674723.56
74 Ge #1	136753.53	0.16	153441.28	89.1	60 - 125		136583.34	136669.13	137008.13
74 Ge #2	40006.71	0.74	47804.94	83.7	60 - 125		39705.34	40021.55	40293.23
74 Ge #3	209775.67	2.58	224564.78	93.4	60 - 125		208421.14	215728.88	205177.00
89 Y #3	1234732.40	3.97	1302847.50	94.8	60 - 125		1216573.40	1290283.40	1197340.60
115 In #3	1248891.40	4.42	1366177.60	91.4	60 - 125		1233440.60	1310230.90	1203002.40
159 Tb #3	1783248.80	4.11	2052817.90	86.9	60 - 125		1754565.40	1866605.00	1728576.00
209 Bi #3	1085140.30	5.06	1405468.50	77.2	60 - 125		1063776.50	1147553.50	1044091.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\166_CCV.D\166_CCV.D#
 Date Acquired: Aug 27 2014 12:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	47.83 ug/l	0.72	50.00	89.5 - 110		83249.26	82572.83	82713.65
11 B	95.31 ug/l	1.25	100.00	89.5 - 110		130461.91	133702.73	131646.88
23 Na	5219 ug/l	0.74	5000.00	89.5 - 110		16084990.00	16114421.00	16251800.00
24 Mg	5145 ug/l	1.54	5000.00	89.5 - 110		10941257.00	11199331.00	11183548.00
27 Al	532.8 ug/l	1.14	500.00	89.5 - 110		1353201.50	1377430.90	1369934.10
39 K	5050 ug/l	0.79	5000.00	89.5 - 110		1531250.10	1550402.30	1581312.30
40 Ca	5326 ug/l	1.46	5000.00	89.5 - 110		31271760.00	31521072.00	32051422.00
47 Ti	51.65 ug/l	1.07	50.00	89.5 - 110		53596.95	53095.64	54496.02
51 V	50.26 ug/l	0.92	50.00	89.5 - 110		119445.63	119232.06	120390.46
52 Cr	49.84 ug/l	0.67	50.00	89.5 - 110		143191.44	143890.75	144453.86
55 Mn	511.4 ug/l	1.07	500.00	89.5 - 110		9247383.00	9186627.00	9239470.00
56 Fe	5396 ug/l	0.47	5000.00	89.5 - 110		41674572.00	41887128.00	41772640.00
59 Co	50.5 ug/l	0.98	50.00	89.5 - 110		690049.56	684841.88	694244.50
60 Ni	51.31 ug/l	0.83	50.00	89.5 - 110		54701.39	54786.09	55068.01
63 Cu	49.9 ug/l	1.07	50.00	89.5 - 110		146474.75	146694.30	146472.03
66 Zn	45.93 ug/l	0.42	50.00	89.5 - 110		91085.00	91500.36	92699.97
75 As	49.41 ug/l	0.60	50.00	89.5 - 110		15249.69	15398.83	15660.69
78 Se	46.78 ug/l	0.42	50.00	89.5 - 110		11221.80	11303.85	11205.45
88 Sr	48.43 ug/l	0.45	50.00	89.5 - 110		1176785.00	1176508.40	1191623.60
95 Mo	50.86 ug/l	1.21	50.00	89.5 - 110		188877.17	191413.92	189844.55
107 Ag	49.07 ug/l	0.89	50.00	89.5 - 110		512153.47	514678.22	510583.94
111 Cd	47.77 ug/l	0.32	50.00	89.5 - 110		107937.08	107504.06	107939.73
118 Sn	48.98 ug/l	0.45	50.00	89.5 - 110		347665.47	346957.72	349022.25
121 Sb	47.63 ug/l	0.36	50.00	89.5 - 110		405479.03	404125.81	405126.56
137 Ba	48.79 ug/l	0.36	50.00	89.5 - 110		183535.70	182522.73	184280.52
202 Hg	2.313 ug/l	0.88	2.50	89.5 - 110		6725.76	6703.75	6720.09
205 Tl	9.172 ug/l	0.43	10.00	89.5 - 110		220887.55	221800.41	222827.81
208 Pb	46.23 ug/l	0.83	50.00	89.5 - 110		1523482.90	1521415.10	1523693.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	400434.53	0.37	442436.88	90.5	60 - 125		399128.16	400129.06	402046.34
45 Sc	400210.44	0.24	456299.72	87.7	60 - 125		401333.47	399721.91	399575.97
45 Sc	705686.63	0.50	765061.25	92.2	60 - 125		702195.94	705617.56	709246.31
74 Ge	138353.30	0.83	153441.28	90.2	60 - 125		138313.67	139517.17	137229.06
74 Ge	41061.26	1.09	47804.94	85.9	60 - 125		40558.25	41213.09	41412.43
74 Ge	210456.31	0.90	224564.78	93.7	60 - 125		208383.64	210882.58	212102.73
89 Y	1255620.30	0.81	1302847.50	96.4	60 - 125		1245255.30	1256075.40	1265530.00
115 In	1261203.40	0.53	1366177.60	92.3	60 - 125		1266877.90	1253745.60	1262986.50
159 Tb	1785187.60	0.85	2052817.90	87.0	60 - 125		1772355.80	1781269.50	1801937.50
209 Bi	1073549.40	0.33	1405468.50	76.4	60 - 125		1076862.50	1073922.50	1069863.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\167_CCB.D\167_CCB.D#
 Date Acquired: Aug 27 2014 12:53 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.008037	0.008037	ug/l	61.90	#VALUE!		6.67	13.33	23.33
11 B #3	1.948	1.948	ug/l	5.52	#VALUE!		4627.32	4857.38	4590.66
23 Na #1	-10.73	-10.73	ug/l	3.75	#VALUE!		52520.98	51188.45	49697.79
24 Mg #1	0.3198	0.3198	ug/l	4.19	#VALUE!		1613.45	1606.78	1650.12
27 Al #1	0.3778	0.3778	ug/l	13.77	#VALUE!		2273.53	2363.54	2513.57
39 K #2	-10.6	-10.6	ug/l	2.05	#VALUE!		8342.07	8408.80	8328.73
40 Ca #1	1.917	1.917	ug/l	2.44	#VALUE!		33827.54	33971.11	33323.30
47 Ti #3	-0.06946	-0.06946	ug/l	33.90	#VALUE!		6.67	30.00	53.33
51 V #2	0.01296	0.01296	ug/l	71.24	#VALUE!		234.45	261.12	218.89
52 Cr #2	-0.01338	-0.01338	ug/l	66.10	#VALUE!		244.45	237.78	286.67
55 Mn #3	0.05565	0.05565	ug/l	18.49	#VALUE!		2553.59	2280.22	2250.20
56 Fe #1	1.188	1.188	ug/l	1.18	#VALUE!		12968.18	12748.02	12908.13
59 Co #3	0.001384	0.001384	ug/l	28.38	#VALUE!		76.67	86.67	86.67
60 Ni #2	0.03047	0.03047	ug/l	12.13	#VALUE!		80.00	78.89	73.33
63 Cu #2	-0.04243	-0.04243	ug/l	13.77	#VALUE!		254.45	255.56	286.67
66 Zn #3	0.01102	0.01102	ug/l	222.41	#VALUE!		556.69	653.36	633.36
75 As #2	0.006876	0.006876	ug/l	174.08	#VALUE!		14.33	12.33	19.67
78 Se #1	-0.04149	-0.04149	ug/l	6.97	#VALUE!		9.33	9.00	8.00
88 Sr #3	0.004091	0.004091	ug/l	38.79	#VALUE!		240.01	213.34	290.01
95 Mo #3	0.02402	0.02402	ug/l	20.58	#VALUE!		180.01	200.01	216.67
107 Ag #3	0.0002603	0.0002603	ug/l	494.81	#VALUE!		116.67	106.67	133.34
111 Cd #3	0.002202	0.002202	ug/l	140.10	#VALUE!		3.29	16.62	13.29
118 Sn #3	-0.03317	-0.03317	ug/l	24.17	#VALUE!		420.02	390.02	500.02
121 Sb #3	0.01978	0.01978	ug/l	22.28	#VALUE!		246.68	196.67	173.34
137 Ba #3	0.01073	0.01073	ug/l	46.24	#VALUE!		80.00	93.34	56.67
202 Hg #3	-0.00776	-0.00776	ug/l	39.43	#VALUE!		80.00	88.00	97.34
205 Tl #3	-0.00213	-0.00213	ug/l	34.80	#VALUE!		133.34	103.34	133.34
208 Pb #3	-0.01871	-0.01871	ug/l	7.37	#VALUE!		660.03	606.69	693.46

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	386939.75	0.49	442436.88	87.5	60 - 125		384799.31	387639.63	388380.34
45 Sc #1	391710.81	0.40	456299.72	85.8	60 - 125		393356.09	391510.03	390266.38
45 Sc #3	674188.31	0.21	765061.25	88.1	60 - 125		673348.13	675816.88	673400.06
74 Ge #1	138137.50	0.02	153441.28	90.0	60 - 125		138139.45	138170.45	138102.59
74 Ge #2	40905.75	0.49	47804.94	85.6	60 - 125		40716.45	40883.47	41117.34
74 Ge #3	207478.66	0.68	224564.78	92.4	60 - 125		206010.28	207580.17	208845.52
89 Y #3	1224625.80	0.46	1302847.50	94.0	60 - 125		1223907.80	1219435.30	1230534.10
115 In #3	1257980.30	0.09	1366177.60	92.1	60 - 125		1258934.60	1256754.60	1258251.60
159 Tb #3	1746050.10	0.24	2052817.90	85.1	60 - 125		1741392.60	1749588.50	1747169.40
209 Bi #3	1097738.60	2.40	1405468.50	78.1	60 - 125		1079008.40	1086284.50	1127923.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\168SMPL.D\168SMPL.D#
 Date Acquired: Aug 27 2014 01:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-1-dSD
 Misc Info: 3005 1/25
 Vial Number: 2404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 5.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 5.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0036345	0.0007269	ug/l	311.05	100.00		6.67	0.00	0.00
11 B # 3	14.245	2.849	ug/l	1.01	1800.00		5997.73	6051.11	6021.09
23 Na # 1	6520	1304	ug/l	0.84	81000.00		4057499.50	4016466.50	4025918.30
24 Mg # 1	2700.5	540.1	ug/l	0.46	81000.00		1149053.40	1141281.60	1154792.40
27 Al # 1	4.5645	0.9129	ug/l	6.71	81000.00		3700.47	3910.54	3627.10
39 K # 2	273.55	54.71	ug/l	1.62	81000.00		27807.67	28294.99	28371.89
40 Ca # 1	15380	3076	ug/l	0.57	81000.00		17905350.00	17859888.00	18161812.00
47 Ti # 3	-0.09845	-0.01969	ug/l	49.75	1620.00		70.00	83.34	90.00
51 V # 2	0.3743	0.07486	ug/l	5.57	1800.00		373.34	392.23	385.56
52 Cr # 2	0.2852	0.05704	ug/l	6.11	1800.00		444.45	462.23	464.46
55 Mn # 3	257.1	51.42	ug/l	1.40	1800.00		902796.25	922946.94	932074.56
56 Fe # 1	9.37	1.874	ug/l	1.18	81000.00		18172.57	18279.48	18059.23
59 Co # 3	0.11365	0.02273	ug/l	8.74	1800.00		386.68	340.01	390.01
60 Ni # 2	0.8775	0.1755	ug/l	6.84	1800.00		227.78	218.89	246.67
63 Cu # 2	-0.2999	-0.05998	ug/l	2.95	1800.00		218.89	211.11	211.11
66 Zn # 3	1.7635	0.3527	ug/l	3.98	1800.00		1306.75	1293.42	1263.42
75 As # 2	0.5205	0.1041	ug/l	10.46	100.00		48.33	41.67	46.67
78 Se # 1	-0.2214	-0.04428	ug/l	9.79	100.00		7.00	9.00	8.00
88 Sr # 3	63.1	12.62	ug/l	0.47	1800.00		300828.19	299337.59	299848.09
95 Mo # 3	1.2565	0.2513	ug/l	6.54	1800.00		973.39	1090.07	1070.06
107 Ag # 3	-0.013625	-0.002725	ug/l	65.14	100.00		66.67	93.34	103.34
111 Cd # 3	0.010545	0.002109	ug/l	104.98	100.00		9.79	6.43	16.43
118 Sn # 3	-0.15445	-0.03089	ug/l	29.04	1800.00		523.36	416.69	416.68
121 Sb # 3	0.039985	0.007997	ug/l	8.75	100.00		110.00	106.67	100.00
137 Ba # 3	32.645	6.529	ug/l	0.95	1800.00		24611.79	24094.33	24781.90
202 Hg # 3	-0.04876	-0.009752	ug/l	10.89	5.00		84.67	85.34	80.67
205 Tl # 3	-0.019955	-0.003991	ug/l	28.84	20.00		110.00	73.34	56.67
208 Pb # 3	5.325	1.065	ug/l	1.21	1800.00		36077.41	35156.39	36250.78
232 Th # 3	0.3369	0.06738	ug/l	8.97	#VALUE!		2573.63	2493.63	2283.59
238 U # 3	0.0645	0.0129	ug/l	5.90	#VALUE!		433.35	466.69	503.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	396655.44	0.74	442436.88	89.7	60 - 125		393627.22	396886.38	399452.66
45 Sc # 1	393841.75	0.40	456299.72	86.3	60 - 125		392534.78	393422.53	395567.94
45 Sc # 3	688804.81	0.48	765061.25	90.0	60 - 125		685292.63	691918.81	689202.94
74 Ge # 1	136303.67	0.54	153441.28	88.8	60 - 125		136294.13	135577.30	137039.58
74 Ge # 2	40792.53	0.62	47804.94	85.3	60 - 125		40681.96	40611.77	41083.88
74 Ge # 3	208288.91	0.46	224564.78	92.8	60 - 125		207911.14	207570.58	209385.02
89 Y # 3	1222953.40	0.22	1302847.50	93.9	60 - 125		1220180.00	1225617.50	1223062.80
115 In # 3	1256899.80	0.90	1366177.60	92.0	60 - 125		1251852.50	1248961.90	1269885.00
159 Tb # 3	1760697.00	0.58	2052817.90	85.8	60 - 125		1759293.30	1751193.50	1771604.50
209 Bi # 3	1103335.30	2.13	1405468.50	78.5	60 - 125		1087857.10	1091710.90	1130437.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\169SMPL.D\169SMPL.D#
 Date Acquired: Aug 27 2014 01:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-1-dPDS
 Misc Info: 3005 1/5
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	19.69	19.69	ug/l	1.14	100.00		35399.07	34804.70	35365.68
11 B # 3	48.81	48.81	ug/l	0.67	1800.00		69948.77	71086.09	71430.50
23 Na # 1	8333	8333	ug/l	1.45	81000.00		26040236.00	26614112.00	26556622.00
24 Mg # 1	4564	4564	ug/l	1.37	81000.00		10016992.00	10114285.00	10200618.00
27 Al # 1	214.8	214.8	ug/l	0.79	81000.00		564735.19	566284.81	567959.63
39 K # 2	2376	2376	ug/l	2.46	81000.00		727114.81	749768.19	758673.25
40 Ca # 1	16970	16970	ug/l	0.93	81000.00		102547740.00	103768880.00	103585660.00
47 Ti # 3	20.78	20.78	ug/l	1.49	1620.00		23051.45	22600.79	23488.51
51 V # 2	20.43	20.43	ug/l	1.46	1800.00		48830.07	49370.29	49678.97
52 Cr # 2	20.2	20.2	ug/l	1.46	1800.00		58642.59	59198.73	59413.72
55 Mn # 3	451.8	451.8	ug/l	1.32	1800.00		8298960.00	8360021.50	8395045.00
56 Fe # 1	2181	2181	ug/l	0.48	81000.00		17301526.00	17489260.00	17200450.00
59 Co # 3	20.51	20.51	ug/l	1.31	1800.00		284496.25	286514.72	290416.00
60 Ni # 2	20.75	20.75	ug/l	1.77	1800.00		22195.61	22555.99	22559.36
63 Cu # 2	19.96	19.96	ug/l	1.21	1800.00		59034.81	59387.07	59936.66
66 Zn # 3	19.57	19.57	ug/l	1.68	1800.00		39923.85	40501.96	40846.07
75 As # 2	20.29	20.29	ug/l	1.58	100.00		6334.77	6425.47	6478.83
78 Se # 1	18.9	18.9	ug/l	0.67	100.00		4574.92	4613.60	4574.25
88 Sr # 3	83.33	83.33	ug/l	0.48	1800.00		2043958.30	2047394.40	2058616.30
95 Mo # 3	22.12	22.12	ug/l	0.78	1800.00		82906.45	82480.80	84282.48
107 Ag # 3	19.47	19.47	ug/l	0.52	100.00		202001.73	205873.41	206223.09
111 Cd # 3	19.29	19.29	ug/l	1.55	100.00		42981.76	44576.11	43853.95
118 Sn # 3	20.18	20.18	ug/l	0.23	1800.00		143434.33	144597.75	145704.22
121 Sb # 3	19.46	19.46	ug/l	0.55	100.00		165712.19	166359.17	167246.53
137 Ba # 3	52.18	52.18	ug/l	0.33	1800.00		196108.42	197120.41	198856.11
202 Hg # 3	0.8749	0.8749	ug/l	1.36	5.00		2626.56	2608.55	2627.23
205 Tl # 3	3.727	3.727	ug/l	0.85	20.00		90350.18	90608.41	90849.30
208 Pb # 3	24	24	ug/l	1.23	1800.00		790562.50	791320.75	801245.69
232 Th # 3	21.85	21.85	ug/l	0.40	#VALUE!		695915.44	695327.81	697871.38
238 U # 3	20.63	20.63	ug/l	1.01	#VALUE!		685427.88	678936.06	689781.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	413145.41	0.46	442436.88	93.4	60 - 125		411098.31	413517.75	414820.16
45 Sc # 1	410617.25	0.54	456299.72	90.0	60 - 125		411575.16	412203.03	408073.53
45 Sc # 3	750254.69	0.47	765061.25	98.1	60 - 125		751488.75	746278.19	752997.00
74 Ge # 1	139364.16	0.19	153441.28	90.8	60 - 125		139389.44	139083.98	139619.05
74 Ge # 2	41488.18	1.37	47804.94	86.8	60 - 125		41580.62	40881.28	42002.64
74 Ge # 3	215658.25	1.15	224564.78	96.0	60 - 125		216780.17	212804.55	217390.02
89 Y # 3	1266161.50	0.81	1302847.50	97.2	60 - 125		1255477.80	1267014.30	1275992.50
115 In # 3	1268841.10	1.01	1366177.60	92.9	60 - 125		1256163.50	1268501.30	1281858.80
159 Tb # 3	1792142.90	0.92	2052817.90	87.3	60 - 125		1777080.10	1809887.00	1789461.40
209 Bi # 3	1065939.80	0.31	1405468.50	75.8	60 - 125		1062700.60	1069248.00	1065870.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\170SMPL.D\170SMPL.D#
 Date Acquired: Aug 27 2014 01:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-1-e.ms
 Misc Info: 3005 1/5
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	10.01	10.01	ug/l	1.15	100.00		18075.30	17985.28	17648.26
11 B # 3	49.01	49.01	ug/l	1.04	1800.00		71664.75	71484.58	70215.84
23 Na # 1	7386	7386	ug/l	0.79	81000.00		23223894.00	23177996.00	23476196.00
24 Mg # 1	3562	3562	ug/l	0.67	81000.00		7828910.50	7826416.50	7894715.00
27 Al # 1	1073	1073	ug/l	1.04	81000.00		2803104.50	2786967.50	2838111.00
39 K # 2	1350	1350	ug/l	0.56	81000.00		420522.44	423705.63	429952.72
40 Ca # 1	16050	16050	ug/l	0.34	81000.00		96699064.00	97329088.00	97661360.00
47 Ti # 3	20.56	20.56	ug/l	1.47	1620.00		21556.21	21686.32	22030.01
51 V # 2	20.6	20.6	ug/l	0.60	1800.00		48936.98	49602.15	49240.02
52 Cr # 2	20.62	20.62	ug/l	0.49	1800.00		59351.37	59589.90	60360.17
55 Mn # 3	349	349	ug/l	0.68	1800.00		6333055.50	6356525.50	6404405.50
56 Fe # 1	1110	1110	ug/l	0.29	81000.00		8725399.00	8798526.00	8804953.00
59 Co # 3	10.59	10.59	ug/l	0.60	1800.00		145137.14	147139.72	146565.22
60 Ni # 2	21.19	21.19	ug/l	1.05	1800.00		22738.44	22779.56	22613.85
63 Cu # 2	20.11	20.11	ug/l	0.81	1800.00		59317.92	59054.99	59756.01
66 Zn # 3	19.96	19.96	ug/l	2.08	1800.00		41099.91	40298.18	40565.43
75 As # 2	20.25	20.25	ug/l	0.64	100.00		6333.77	6339.11	6362.12
78 Se # 1	18.51	18.51	ug/l	1.06	100.00		4530.57	4534.91	4467.89
88 Sr # 3	84.17	84.17	ug/l	0.95	1800.00		2018059.10	2048546.90	2065876.60
95 Mo # 3	21.83	21.83	ug/l	1.31	1800.00		81332.53	81342.87	82534.71
107 Ag # 3	10.15	10.15	ug/l	1.42	100.00		105858.14	105522.34	107172.27
111 Cd # 3	9.82	9.82	ug/l	1.52	100.00		21595.92	22436.98	22543.59
118 Sn # 3	40.76	40.76	ug/l	0.76	1800.00		288010.06	290430.25	291592.81
121 Sb # 3	9.958	9.958	ug/l	1.38	100.00		84060.47	84388.50	85926.56
137 Ba # 3	51.88	51.88	ug/l	1.04	1800.00		194382.44	194941.92	196493.22
202 Hg # 3	0.8259	0.8259	ug/l	2.25	5.00		2420.19	2420.86	2555.22
205 Tl # 3	7.609	7.609	ug/l	0.24	20.00		182862.36	182781.55	185242.45
208 Pb # 3	15	15	ug/l	0.87	1800.00		490850.34	495356.41	495186.13
232 Th # 3	10.7	10.7	ug/l	0.76	#VALUE!		335656.31	340246.75	342020.47
238 U # 3	10.61	10.61	ug/l	0.80	#VALUE!		346069.78	350490.44	354124.78

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	413222.13	0.11	442436.88	93.4	60 - 125		413619.38	413328.16	412718.91
45 Sc # 1	408515.44	0.79	456299.72	89.5	60 - 125		404792.63	410148.38	410605.28
45 Sc # 3	715640.75	0.44	765061.25	93.5	60 - 125		715543.81	718843.19	712535.31
74 Ge # 1	139908.14	0.36	153441.28	91.2	60 - 125		140222.17	139332.56	140169.70
74 Ge # 2	41125.85	0.81	47804.94	86.0	60 - 125		40753.12	41233.18	41391.26
74 Ge # 3	212746.70	1.11	224564.78	94.7	60 - 125		210075.80	213566.69	214597.61
89 Y # 3	1249905.60	0.49	1302847.50	95.9	60 - 125		1243686.90	1256058.50	1249971.40
115 In # 3	1262793.60	1.09	1366177.60	92.4	60 - 125		1248339.10	1275781.80	1264260.30
159 Tb # 3	1781010.60	1.00	2052817.90	86.8	60 - 125		1770259.50	1771260.40	1801511.90
209 Bi # 3	1060603.50	0.58	1405468.50	75.5	60 - 125		1057784.10	1056326.50	1067699.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\171SMPL.D\171SMPL.D#
 Date Acquired: Aug 27 2014 01:23 pm
 Acq. Method: BPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-1-f mnd
 Misc Info: 3005 1/5
 Vial Number: 2407
 Current Method: C:\ICPCHEM\1\METHODS\BPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\BPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.709	9.709	ug/l	1.83	100.00		17294.57	18132.08	17828.43
11 B # 3	48.58	48.58	ug/l	0.08	1800.00		71618.54	72430.69	72273.56
23 Na # 1	7077	7077	ug/l	2.69	81000.00		22981590.00	23406252.00	23139520.00
24 Mg # 1	3444	3444	ug/l	3.06	81000.00		7872106.50	7939236.50	7829693.00
27 Al # 1	1032	1032	ug/l	3.07	81000.00		2784370.80	2837877.00	2785695.80
39 K # 2	1318	1318	ug/l	1.05	81000.00		418288.69	422071.88	433553.28
40 Ca # 1	15300	15300	ug/l	2.56	81000.00		96274424.00	96158328.00	96224128.00
47 Ti # 3	19.34	19.34	ug/l	2.29	1620.00		21442.72	21422.64	21733.07
51 V # 2	19.83	19.83	ug/l	0.47	1800.00		47777.33	48562.71	49281.25
52 Cr # 2	19.66	19.66	ug/l	0.55	1800.00		57912.42	58216.73	58908.90
55 Mn # 3	336.5	336.5	ug/l	0.46	1800.00		6275140.50	6302865.00	6277928.00
56 Fe # 1	1036	1036	ug/l	2.88	81000.00		8536945.00	8503511.00	8476626.00
59 Co # 3	10.36	10.36	ug/l	0.47	1800.00		145691.44	146910.89	147112.64
60 Ni # 2	20.68	20.68	ug/l	0.49	1800.00		22489.28	22642.77	22949.81
63 Cu # 2	19.6	19.6	ug/l	0.95	1800.00		58850.93	58801.87	60133.89
66 Zn # 3	19.1	19.1	ug/l	1.44	1800.00		39800.32	39239.11	40575.36
75 As # 2	19.48	19.48	ug/l	0.12	100.00		6174.39	6261.75	6306.10
78 Se # 1	17.58	17.58	ug/l	1.88	100.00		4428.55	4403.21	4437.22
88 Sr # 3	80.99	80.99	ug/l	0.52	1800.00		2024491.90	2026258.10	2011081.30
95 Mo # 3	21.41	21.41	ug/l	0.61	1800.00		81312.42	81365.73	81322.44
107 Ag # 3	9.948	9.948	ug/l	1.33	100.00		106160.16	104596.91	106196.66
111 Cd # 3	9.668	9.668	ug/l	2.20	100.00		22320.16	21699.40	22483.83
118 Sn # 3	38.9	38.9	ug/l	0.89	1800.00		281437.56	281791.47	279378.97
121 Sb # 3	9.751	9.751	ug/l	0.24	100.00		83654.84	84814.73	84302.09
137 Ba # 3	50.44	50.44	ug/l	0.90	1800.00		191449.08	191698.72	194910.23
202 Hg # 3	0.7995	0.7995	ug/l	1.47	5.00		2462.20	2418.86	2421.86
205 Tl # 3	7.275	7.275	ug/l	0.11	20.00		178396.56	178160.67	180027.67
208 Pb # 3	14.12	14.12	ug/l	0.40	1800.00		471169.88	473937.44	476025.31
232 Th # 3	10.16	10.16	ug/l	0.82	#VALUE!		328164.59	327925.00	324777.91
238 U # 3	10.29	10.29	ug/l	0.96	#VALUE!		343787.09	343238.38	346525.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	422598.81	0.61	442436.88	95.5	60 - 125		419639.69	424206.44	423950.34
45 Sc # 1	424270.88	2.58	456299.72	93.0	60 - 125		416192.34	419887.47	436732.84
45 Sc # 3	752949.81	1.79	765061.25	98.4	60 - 125		744472.31	768456.88	745920.31
74 Ge # 1	144468.88	2.17	153441.28	94.2	60 - 125		142831.14	142498.61	148076.88
74 Ge # 2	42097.32	1.17	47804.94	88.1	60 - 125		41550.52	42229.84	42511.61
74 Ge # 3	217894.45	0.28	224564.78	97.0	60 - 125		217650.09	217445.52	218587.73
89 Y # 3	1284053.00	0.23	1302847.50	98.6	60 - 125		1286739.00	1280827.90	1284592.10
115 In # 3	1281415.90	0.63	1366177.60	93.8	60 - 125		1272088.50	1286914.00	1285245.40
159 Tb # 3	1814332.60	0.66	2052817.90	88.4	60 - 125		1807812.50	1806943.80	1828241.90
209 Bi # 3	1075705.10	0.66	1405468.50	76.5	60 - 125		1069571.60	1083482.00	1074061.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\172SMPL.D\172SMPL.D#
 Date Acquired: Aug 27 2014 01:30 pm
 Acq. Method: BPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-2-b
 Misc Info: 3005 1/5
 Vial Number: 2408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.004328	0.004328	ug/l	24.45	100.00		10.00	6.67	10.00
11 B # 3	41.52	41.52	ug/l	0.72	1800.00		61246.32	61815.04	61179.67
23 Na # 1	12840	12840	ug/l	0.14	81000.00		41274792.00	41422352.00	41215360.00
24 Mg # 1	3155	3155	ug/l	0.76	81000.00		7147398.00	7050511.50	7104630.00
27 Al # 1	1.617	1.617	ug/l	8.61	81000.00		6119.21	6018.65	5410.92
39 K # 2	1082	1082	ug/l	0.33	81000.00		344514.91	348283.06	352846.97
40 Ca # 1	18610	18610	ug/l	0.75	81000.00		114299900.00	115409840.00	115645450.00
47 Ti # 3	0.2568	0.2568	ug/l	18.28	1620.00		403.35	426.69	340.01
51 V # 2	0.6999	0.6999	ug/l	1.63	1800.00		1866.78	1931.23	1922.34
52 Cr # 2	0.2075	0.2075	ug/l	2.83	1800.00		903.36	890.03	936.70
55 Mn # 3	0.2252	0.2252	ug/l	4.72	1800.00		5480.97	5764.40	5394.27
56 Fe # 1	1.067	1.067	ug/l	5.42	81000.00		13275.09	12564.60	12361.14
59 Co # 3	0.02674	0.02674	ug/l	15.20	1800.00		490.02	440.02	383.35
60 Ni # 2	0.2818	0.2818	ug/l	8.33	1800.00		356.67	323.34	377.79
63 Cu # 2	0.2665	0.2665	ug/l	5.53	1800.00		1163.38	1160.05	1256.72
66 Zn # 3	1.965	1.965	ug/l	3.56	1800.00		4570.70	4714.08	4450.66
75 As # 2	0.2492	0.2492	ug/l	5.81	100.00		92.33	97.00	89.00
78 Se # 1	0.3285	0.3285	ug/l	2.11	100.00		98.33	101.67	99.33
88 Sr # 3	72.22	72.22	ug/l	0.98	1800.00		1758029.10	1784003.30	1746225.60
95 Mo # 3	0.3943	0.3943	ug/l	6.42	1800.00		1526.78	1696.80	1540.11
107 Ag # 3	-0.002669	-0.002669	ug/l	37.39	100.00		100.00	80.00	86.67
111 Cd # 3	0.0005749	0.0005749	ug/l	647.59	100.00		16.33	6.29	-0.34
118 Sn # 3	0.009267	0.009267	ug/l	35.84	1800.00		763.38	736.70	723.37
121 Sb # 3	0.05468	0.05468	ug/l	3.85	100.00		516.69	510.02	486.69
137 Ba # 3	10.73	10.73	ug/l	0.37	1800.00		40201.47	40655.86	40652.68
202 Hg # 3	-0.01448	-0.01448	ug/l	1.53	5.00		70.67	70.33	72.00
205 Tl # 3	0.008287	0.008287	ug/l	6.44	20.00		383.35	383.35	363.35
208 Pb # 3	0.01991	0.01991	ug/l	230.14	1800.00		1056.71	3660.41	1076.72
232 Th # 3	0.1633	0.1633	ug/l	6.52	#VALUE!		5754.59	5187.72	5204.38
238 U # 3	0.4225	0.4225	ug/l	3.58	#VALUE!		14310.48	14043.51	13439.64

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	418772.00	0.15	442436.88	94.7	60 - 125		418610.09	418240.66	419465.31
45 Sc # 1	417181.13	0.21	456299.72	91.4	60 - 125		417519.44	417826.31	416197.69
45 Sc # 3	744712.94	2.17	765061.25	97.3	60 - 125		753680.38	726092.81	754365.69
74 Ge # 1	141493.50	0.04	153441.28	92.2	60 - 125		141524.48	141523.45	141432.53
74 Ge # 2	41818.54	0.95	47804.94	87.5	60 - 125		41487.02	41707.58	42261.00
74 Ge # 3	214029.23	0.72	224564.78	95.3	60 - 125		212300.61	214519.55	215267.55
89 Y # 3	1256254.00	0.92	1302847.50	96.4	60 - 125		1243693.40	1266621.50	1258446.80
115 In # 3	1265570.30	0.45	1366177.60	92.6	60 - 125		1260115.60	1265119.50	1271476.00
159 Tb # 3	1779705.80	0.36	2052817.90	86.7	60 - 125		1776783.30	1775354.10	1786980.10
209 Bi # 3	1057506.40	0.38	1405468.50	75.2	60 - 125		1054404.00	1056098.40	1062016.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\173SMPL.D\173SMPL.D#
 Date Acquired: Aug 27 2014 01:38 pm
 Acq. Method: BPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-3-b
 Misc Info: 3005 1/5
 Vial Number: 2409
 Current Method: C:\ICPCHEM\1\METHODS\BPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\BPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B #3	2.678	2.678	ug/l	4.00	1800.00		6011.07	6214.51	6011.09
23 Na #1	1696	1696	ug/l	0.31	81000.00		5453063.50	5475297.50	5498383.50
24 Mg #1	2257	2257	ug/l	0.38	81000.00		5043359.00	5012779.00	5031193.50
27 Al #1	1.809	1.809	ug/l	2.21	81000.00		6394.56	6301.20	6197.84
39 K #2	81.7	81.7	ug/l	1.78	81000.00		36556.09	36402.37	37467.69
40 Ca #1	15710	15710	ug/l	0.11	81000.00		96147328.00	96116864.00	96190464.00
47 Ti #3	0.1358	0.1358	ug/l	10.43	1620.00		263.34	246.68	233.34
51 V #2	0.2235	0.2235	ug/l	6.46	1800.00		697.80	764.47	770.02
52 Cr #2	0.05586	0.05586	ug/l	16.10	1800.00		482.23	435.56	460.01
55 Mn #3	197.6	197.6	ug/l	0.94	1800.00		3578800.00	3596657.50	3647697.80
56 Fe #1	1.04	1.04	ug/l	2.88	81000.00		12601.35	12431.12	12154.33
59 Co #3	0.04102	0.04102	ug/l	5.74	1800.00		603.36	670.03	626.70
60 Ni #2	0.5396	0.5396	ug/l	3.00	1800.00		632.24	606.68	636.68
63 Cu #2	-0.05625	-0.05625	ug/l	5.70	1800.00		224.45	218.89	238.89
66 Zn #3	0.3515	0.3515	ug/l	10.05	1800.00		1270.08	1276.76	1396.77
75 As #2	2.188	2.188	ug/l	2.67	100.00		711.02	682.35	707.68
78 Se #1	-0.03089	-0.03089	ug/l	33.18	100.00		9.00	11.67	14.00
88 Sr #3	41.3	41.3	ug/l	0.34	1800.00		1002970.00	1001149.90	1023177.10
95 Mo #3	5.505	5.505	ug/l	1.83	1800.00		20525.61	21159.70	20792.68
107 Ag #3	-0.003657	-0.003657	ug/l	9.55	100.00		76.67	76.67	83.34
111 Cd #3	0.003094	0.003094	ug/l	109.37	100.00		8.82	22.01	8.76
118 Sn #3	-0.02338	-0.02338	ug/l	11.83	1800.00		493.36	506.69	533.36
121 Sb #3	0.03743	0.03743	ug/l	2.97	100.00		363.35	346.68	366.68
137 Ba #3	106.7	106.7	ug/l	0.54	1800.00		402501.25	404647.81	406090.50
202 Hg #3	-0.005963	-0.005963	ug/l	86.62	5.00		84.33	112.67	89.00
205 Tl #3	-0.001586	-0.001586	ug/l	4.51	20.00		140.01	140.01	136.67
208 Pb #3	2.832	2.832	ug/l	0.72	1800.00		93785.38	94206.27	94746.51
232 Th #3	0.05586	0.05586	ug/l	8.45	#VALUE!		2186.88	1973.53	1963.53
238 U #3	0.01689	0.01689	ug/l	8.69	#VALUE!		573.36	646.70	566.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	416250.06	0.96	442436.88	94.1	60 - 125		413627.66	414288.16	420834.41
45 Sc #1	412979.88	0.12	456299.72	90.5	60 - 125		412458.81	413080.41	413400.47
45 Sc #3	715059.19	0.24	765061.25	93.5	60 - 125		714701.31	716955.88	713520.31
74 Ge #1	141054.14	0.05	153441.28	91.9	60 - 125		141123.75	141040.56	140998.13
74 Ge #2	41306.28	0.81	47804.94	86.4	60 - 125		40936.99	41392.37	41589.48
74 Ge #3	212997.67	0.21	224564.78	94.8	60 - 125		212534.31	213411.58	213047.17
89 Y #3	1257431.50	0.96	1302847.50	96.5	60 - 125		1254258.40	1247280.80	1270755.30
115 In #3	1270964.10	0.34	1366177.60	93.0	60 - 125		1272624.60	1266058.60	1274209.30
159 Tb #3	1780333.90	0.47	2052817.90	86.7	60 - 125		1775163.30	1790051.40	1775786.60
209 Bi #3	1087152.00	1.79	1405468.50	77.4	60 - 125		1072820.90	1079377.30	1109257.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\174SMPL.D\174SMPL.D#
 Date Acquired: Aug 27 2014 01:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-4-b
 Misc Info: 3005 1/5
 Vial Number: 2410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0006561	0.0006561	ug/l	162.93	100.00		3.33	3.33	0.00
11 B #3	4.414	4.414	ug/l	2.43	1800.00		8482.06	8715.49	8482.03
23 Na #1	6529	6529	ug/l	0.71	81000.00		20753950.00	20662314.00	20625670.00
24 Mg #1	2983	2983	ug/l	1.36	81000.00		6697589.50	6535846.50	6567610.50
27 Al #1	1.89	1.89	ug/l	6.35	81000.00		6819.17	6194.51	6384.60
39 K #2	153.2	153.2	ug/l	1.65	81000.00		58136.81	58223.36	59661.39
40 Ca #1	27750	27750	ug/l	0.33	81000.00		169219700.00	167625550.00	169213810.00
47 Ti #3	0.1628	0.1628	ug/l	34.45	1620.00		303.35	316.71	210.01
51 V #2	0.4927	0.4927	ug/l	3.37	1800.00		1417.85	1394.51	1343.39
52 Cr #2	0.07277	0.07277	ug/l	4.21	1800.00		518.90	501.12	502.23
55 Mn #3	1.559	1.559	ug/l	0.35	1800.00		29907.89	29667.54	29570.63
56 Fe #1	0.9508	0.9508	ug/l	0.90	81000.00		11650.73	11467.20	11677.36
59 Co #3	0.05087	0.05087	ug/l	7.90	1800.00		830.04	746.70	720.04
60 Ni #2	0.2098	0.2098	ug/l	4.31	1800.00		282.23	262.23	266.67
63 Cu #2	0.3172	0.3172	ug/l	4.76	1800.00		1380.06	1294.50	1301.17
66 Zn #3	3.507	3.507	ug/l	0.54	1800.00		7675.14	7585.09	7578.40
75 As #2	0.3377	0.3377	ug/l	4.23	100.00		124.00	118.67	115.00
78 Se #1	0.005433	0.005433	ug/l	236.15	100.00		22.67	16.67	21.33
88 Sr #3	65.77	65.77	ug/l	1.38	1800.00		1575177.80	1623784.80	1631513.00
95 Mo #3	0.1305	0.1305	ug/l	11.27	1800.00		586.69	663.36	556.69
107 Ag #3	-0.0044	-0.0044	ug/l	36.82	100.00		66.67	90.00	56.67
111 Cd #3	0.0002007	0.0002007	ug/l	2568.50	100.00		19.87	-0.15	-0.12
118 Sn #3	-0.02818	-0.02818	ug/l	48.62	1800.00		550.02	370.02	510.02
121 Sb #3	0.01017	0.01017	ug/l	10.70	100.00		116.67	136.67	123.34
137 Ba #3	147.8	147.8	ug/l	1.07	1800.00		558475.69	559814.88	562746.06
202 Hg #3	-0.01866	-0.01866	ug/l	16.07	5.00		55.00	68.67	53.33
205 Tl #3	-0.0004269	-0.0004269	ug/l	330.29	20.00		126.67	190.01	183.34
208 Pb #3	-0.0166	-0.0166	ug/l	7.51	1800.00		683.36	766.70	753.37
232 Th #3	0.03325	0.03325	ug/l	8.54	#VALUE!		1370.11	1260.10	1206.75
238 U #3	0.1494	0.1494	ug/l	3.67	#VALUE!		4770.90	4944.31	5187.72

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	417474.50	0.56	442436.88	94.4	60 - 125		415473.63	416893.66	420056.19
45 Sc #1	410087.88	0.53	456299.72	89.9	60 - 125		409846.47	408046.19	412370.88
45 Sc #3	716847.75	0.71	765061.25	93.7	60 - 125		711108.38	718495.38	720939.44
74 Ge #1	139493.05	0.55	153441.28	90.9	60 - 125		139244.83	138878.80	140355.53
74 Ge #2	41227.94	0.45	47804.94	86.2	60 - 125		41337.84	41014.86	41331.11
74 Ge #3	211883.39	0.31	224564.78	94.4	60 - 125		212456.53	212035.66	211157.98
89 Y #3	1259920.30	0.87	1302847.50	96.7	60 - 125		1251581.50	1255759.10	1272420.10
115 In #3	1271961.90	1.39	1366177.60	93.1	60 - 125		1252200.10	1277193.80	1286491.90
159 Tb #3	1777065.60	0.84	2052817.90	86.6	60 - 125		1763134.50	1775112.00	1792950.40
209 Bi #3	1063130.50	0.56	1405468.50	75.6	60 - 125		1057650.30	1062328.40	1069412.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\175SMPL.D\175SMPL.D#
 Date Acquired: Aug 27 2014 01:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-5-b
 Misc Info: 3005 1/5
 Vial Number: 2411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001889	0.001889	ug/l	148.49	100.00		3.33	0.00	10.00
11 B # 3	7.732	7.732	ug/l	4.76	1800.00		12677.77	13798.49	13054.62
23 Na # 1	4561	4561	ug/l	0.82	81000.00		14352583.00	14541656.00	14516268.00
24 Mg # 1	3122	3122	ug/l	0.75	81000.00		6855220.50	6933635.50	6929739.50
27 Al # 1	11.18	11.18	ug/l	5.42	81000.00		28914.03	32115.19	31531.47
39 K # 2	154.9	154.9	ug/l	2.58	81000.00		57631.66	59821.65	58688.33
40 Ca # 1	12370	12370	ug/l	0.64	81000.00		74465136.00	75482896.00	75699760.00
47 Ti # 3	0.291	0.291	ug/l	17.34	1620.00		423.35	456.70	356.68
51 V # 2	0.6412	0.6412	ug/l	2.18	1800.00		1732.32	1683.43	1762.32
52 Cr # 2	0.1544	0.1544	ug/l	9.08	1800.00		764.47	688.91	760.02
55 Mn # 3	0.6674	0.6674	ug/l	2.27	1800.00		13491.89	13922.19	13248.42
56 Fe # 1	4.319	4.319	ug/l	3.69	81000.00		39433.83	37107.26	38378.99
59 Co # 3	0.01884	0.01884	ug/l	23.54	1800.00		380.02	263.34	333.35
60 Ni # 2	0.4875	0.4875	ug/l	3.90	1800.00		540.01	573.35	577.79
63 Cu # 2	0.1014	0.1014	ug/l	4.84	1800.00		696.69	686.69	672.24
66 Zn # 3	1.199	1.199	ug/l	3.60	1800.00		3083.68	2963.66	2976.99
75 As # 2	0.3238	0.3238	ug/l	7.03	100.00		110.33	109.00	122.67
78 Se # 1	0.04893	0.04893	ug/l	34.05	100.00		35.00	27.67	29.67
88 Sr # 3	52.69	52.69	ug/l	0.95	1800.00		1267203.10	1289624.80	1274117.10
95 Mo # 3	0.5636	0.5636	ug/l	4.06	1800.00		2300.22	2143.51	2260.21
107 Ag # 3	-0.003772	-0.003772	ug/l	39.00	100.00		86.67	86.67	60.00
111 Cd # 3	0.001941	0.001941	ug/l	189.39	100.00		2.83	9.53	19.50
118 Sn # 3	-0.0213	-0.0213	ug/l	27.54	1800.00		556.69	480.02	543.36
121 Sb # 3	0.03064	0.03064	ug/l	9.19	100.00		323.35	303.35	276.68
137 Ba # 3	24.53	24.53	ug/l	0.27	1800.00		93050.51	93040.48	93211.45
202 Hg # 3	-0.02185	-0.02185	ug/l	17.57	5.00		59.67	38.33	51.00
205 Tl # 3	-0.001778	-0.001778	ug/l	13.85	20.00		140.01	130.00	130.00
208 Pb # 3	-0.004014	-0.004014	ug/l	235.90	1800.00		1488.33	906.71	1026.71
232 Th # 3	0.03176	0.03176	ug/l	5.09	#VALUE!		1280.09	1186.75	1240.09
238 U # 3	0.2031	0.2031	ug/l	1.38	#VALUE!		6634.96	6861.76	6808.42

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	414550.88	1.16	442436.88	93.7	60 - 125		409398.16	415311.13	418943.41
45 Sc # 1	410006.00	0.93	456299.72	89.9	60 - 125		407197.25	408459.78	414360.88
45 Sc # 3	717481.94	0.78	765061.25	93.8	60 - 125		712639.75	716181.38	723624.50
74 Ge # 1	139764.52	0.99	153441.28	91.1	60 - 125		138367.41	139802.75	141123.39
74 Ge # 2	40904.22	0.41	47804.94	85.6	60 - 125		40880.05	40750.93	41081.68
74 Ge # 3	212413.41	0.77	224564.78	94.6	60 - 125		210905.00	214139.00	212196.22
89 Y # 3	1247462.10	1.12	1302847.50	95.7	60 - 125		1231732.90	1252327.80	1258325.90
115 In # 3	1272800.00	0.30	1366177.60	93.2	60 - 125		1268441.80	1274974.40	1274983.60
159 Tb # 3	1767982.30	0.43	2052817.90	86.1	60 - 125		1766561.40	1776244.50	1761140.80
209 Bi # 3	1066439.40	0.38	1405468.50	75.9	60 - 125		1062088.40	1070213.80	1067016.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\176SMPL.D\176SMPL.D#
 Date Acquired: Aug 27 2014 02:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-1-6-b
 Misc Info: 3005 1/5
 Vial Number: 2412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.000677	0.000677	ug/l	160.56	100.00		3.33	3.33	0.00
11 B # 3	2.991	2.991	ug/l	2.94	1800.00		6424.56	6307.85	6537.93
23 Na # 1	2771	2771	ug/l	1.11	81000.00		8802953.00	8883937.00	8947385.00
24 Mg # 1	2400	2400	ug/l	0.28	81000.00		5349249.00	5346523.50	5325973.50
27 Al # 1	9.972	9.972	ug/l	3.81	81000.00		27090.96	27539.94	28902.87
39 K # 2	141.5	141.5	ug/l	0.97	81000.00		54662.64	55060.66	55833.03
40 Ca # 1	19860	19860	ug/l	0.76	81000.00		120763500.00	121605240.00	121788700.00
47 Ti # 3	0.223	0.223	ug/l	22.89	1620.00		390.02	293.34	323.35
51 V # 2	0.8206	0.8206	ug/l	2.50	1800.00		2221.27	2124.59	2169.03
52 Cr # 2	0.1119	0.1119	ug/l	5.50	1800.00		636.68	601.13	626.68
55 Mn # 3	2.045	2.045	ug/l	0.09	1800.00		37635.29	38253.37	38079.69
56 Fe # 1	4.061	4.061	ug/l	1.20	81000.00		36639.96	35999.52	36790.16
59 Co # 3	0.02896	0.02896	ug/l	5.44	1800.00		436.68	453.35	483.35
60 Ni # 2	0.2818	0.2818	ug/l	5.27	1800.00		356.67	356.67	331.12
63 Cu # 2	0.02422	0.02422	ug/l	19.63	1800.00		467.79	447.79	477.79
66 Zn # 3	0.6162	0.6162	ug/l	4.87	1800.00		1726.79	1866.81	1840.15
75 As # 2	0.4754	0.4754	ug/l	5.39	100.00		154.33	170.33	163.33
78 Se # 1	-0.03254	-0.03254	ug/l	33.87	100.00		8.00	13.00	12.33
88 Sr # 3	70.13	70.13	ug/l	0.74	1800.00		1666436.30	1720427.00	1700411.40
95 Mo # 3	0.6753	0.6753	ug/l	1.12	1800.00		2653.60	2593.62	2633.61
107 Ag # 3	-0.004865	-0.004865	ug/l	27.40	100.00		50.00	76.67	70.00
111 Cd # 3	0.002956	0.002956	ug/l	181.77	100.00		2.75	26.10	9.42
118 Sn # 3	-0.02257	-0.02257	ug/l	35.81	1800.00		516.69	450.02	570.03
121 Sb # 3	0.01241	0.01241	ug/l	23.17	100.00		120.00	140.00	170.01
137 Ba # 3	129.1	129.1	ug/l	0.48	1800.00		482044.88	484825.81	486583.00
202 Hg # 3	-0.01649	-0.01649	ug/l	16.77	5.00		55.33	70.00	68.33
205 Tl # 3	-0.003196	-0.003196	ug/l	15.67	20.00		100.00	86.67	110.00
208 Pb # 3	-0.01452	-0.01452	ug/l	6.35	1800.00		760.03	800.03	823.37
232 Th # 3	0.02089	0.02089	ug/l	2.64	#VALUE!		893.39	870.05	906.72
238 U # 3	0.2169	0.2169	ug/l	3.48	#VALUE!		6955.10	7218.59	7525.44

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	409906.41	0.58	442436.88	92.6	60 - 125		407184.69	411383.72	411150.78
45 Sc # 1	412414.72	0.32	456299.72	90.4	60 - 125		413931.03	411564.91	411748.22
45 Sc # 3	707577.56	1.03	765061.25	92.5	60 - 125		699565.25	713845.31	709321.94
74 Ge # 1	140479.58	0.34	153441.28	91.6	60 - 125		140043.52	140998.20	140397.00
74 Ge # 2	41297.01	0.36	47804.94	86.4	60 - 125		41219.87	41204.20	41466.97
74 Ge # 3	208906.89	0.85	224564.78	93.0	60 - 125		206883.06	210231.00	209606.61
89 Y # 3	1244355.30	0.87	1302847.50	95.5	60 - 125		1232740.00	1254269.00	1246056.80
115 In # 3	1259025.40	0.61	136177.60	92.2	60 - 125		1256453.40	1252981.10	1267641.60
159 Tb # 3	1759158.90	0.45	2052817.90	85.7	60 - 125		1751109.10	1766924.40	1759443.80
209 Bi # 3	1067379.80	0.48	1405468.50	75.9	60 - 125		1062156.90	1067548.40	1072434.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :Max. Number of Failures Allowed
 0 :ISTD Failures
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\177_CCV.D\177_CCV.D#
 Date Acquired: Aug 27 2014 02:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	47.86 ug/l	1.92	50.00	89.5 - 110		86245.25	83547.33	84052.99
11 B	94.3 ug/l	1.33	100.00	89.5 - 110		134647.44	131824.06	133340.83
23 Na	5222 ug/l	0.57	5000.00	89.5 - 110		16501286.00	16424043.00	16624420.00
24 Mg	5159 ug/l	0.15	5000.00	89.5 - 110		11351501.00	11376719.00	11429535.00
27 Al	533.1 ug/l	0.28	500.00	89.5 - 110		1397237.30	1398227.30	1397777.30
39 K	5080 ug/l	0.86	5000.00	89.5 - 110		1567870.10	1592168.90	1585782.00
40 Ca	5332 ug/l	0.14	5000.00	89.5 - 110		32202542.00	32358010.00	32477866.00
47 Ti	51.44 ug/l	0.73	50.00	89.5 - 110		54549.53	53864.61	54492.88
51 V	50.16 ug/l	0.24	50.00	89.5 - 110		120658.85	121289.51	120652.30
52 Cr	49.64 ug/l	0.48	50.00	89.5 - 110		145006.20	144759.97	145159.89
55 Mn	507.2 ug/l	0.62	500.00	89.5 - 110		9108484.00	9155548.00	9178920.00
56 Fe	5386 ug/l	0.32	5000.00	89.5 - 110		42418060.00	42819672.00	42634632.00
59 Co	50.52 ug/l	0.68	50.00	89.5 - 110		694357.63	691830.44	683747.06
60 Ni	51.05 ug/l	0.37	50.00	89.5 - 110		55047.92	55425.85	55190.58
63 Cu	49.61 ug/l	0.27	50.00	89.5 - 110		147507.25	148268.78	146457.88
66 Zn	45.41 ug/l	0.35	50.00	89.5 - 110		91011.43	90857.00	90277.85
75 As	48.98 ug/l	0.76	50.00	89.5 - 110		15383.47	15521.24	15544.60
78 Se	46.76 ug/l	0.91	50.00	89.5 - 110		11440.93	11273.83	11459.28
88 Sr	49.18 ug/l	0.26	50.00	89.5 - 110		1188285.10	1193162.00	1193527.80
95 Mo	50.31 ug/l	0.82	50.00	89.5 - 110		187464.19	187819.27	186883.92
107 Ag	48.44 ug/l	0.91	50.00	89.5 - 110		505772.38	504860.63	502129.38
111 Cd	47.01 ug/l	0.80	50.00	89.5 - 110		106236.84	106119.24	104875.87
118 Sn	48.88 ug/l	0.88	50.00	89.5 - 110		347191.56	346700.53	344499.75
121 Sb	47.02 ug/l	0.56	50.00	89.5 - 110		398068.63	400663.00	396876.19
137 Ba	48.92 ug/l	1.19	50.00	89.5 - 110		184348.38	182966.73	182661.22
202 Hg	2.329 ug/l	1.49	2.50	89.5 - 110		6656.07	6695.08	6586.04
205 Tl	9.222 ug/l	0.67	10.00	89.5 - 110		219319.69	219206.03	219161.81
208 Pb	46.32 ug/l	0.93	50.00	89.5 - 110		1503561.40	1500829.80	1494839.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	408737.50	0.25	442436.88	92.4	60 - 125		407848.16	409864.63	408499.69
45 Sc	409049.59	0.30	456299.72	89.6	60 - 125		407677.34	409401.66	410069.78
45 Sc	716160.25	0.91	765061.25	93.6	60 - 125		713817.13	711155.38	723508.31
74 Ge	140230.95	0.05	153441.28	91.4	60 - 125		140290.33	140240.45	140162.09
74 Ge	41546.10	0.35	47804.94	86.9	60 - 125		41580.63	41670.80	41386.86
74 Ge	210433.73	0.24	224564.78	93.7	60 - 125		211016.89	210096.56	210187.75
89 Y	1247155.90	0.09	1302847.50	95.7	60 - 125		1247201.00	1246041.80	1248224.80
115 In	1257235.90	1.05	1366177.60	92.0	60 - 125		1253223.50	1271955.50	1246528.60
159 Tb	1754736.40	0.65	2052817.90	85.5	60 - 125		1749375.40	1747004.10	1767829.50
209 Bi	1049362.00	1.13	1405468.50	74.7	60 - 125		1051372.80	1060059.00	1036654.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\178_CCB.D\178_CCB.D#
 Date Acquired: Aug 27 2014 02:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00 Tune Step 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.01013	0.01013	ug/l	38.99	#VALUE!		13.33	16.67	26.67
11 B #3	1.412	1.412	ug/l	5.57	#VALUE!		4120.56	4317.24	4173.88
23 Na #1	-11.22	-11.22	ug/l	1.96	#VALUE!		50412.93	51148.27	50710.66
24 Mg #1	0.3132	0.3132	ug/l	11.81	#VALUE!		1743.47	1623.45	1570.11
27 Al #1	0.3582	0.3582	ug/l	7.86	#VALUE!		2456.94	2403.55	2300.20
39 K #2	-10	-10	ug/l	11.14	#VALUE!		9089.07	9015.77	8548.87
40 Ca #1	2.119	2.119	ug/l	4.04	#VALUE!		35423.78	35407.15	36118.31
47 Ti #3	-0.065	-0.065	ug/l	23.22	#VALUE!		53.34	26.67	26.67
51 V #2	0.02187	0.02187	ug/l	30.50	#VALUE!		272.23	282.23	254.45
52 Cr #2	-0.01334	-0.01334	ug/l	5.00	#VALUE!		268.89	264.45	266.67
55 Mn #3	0.05805	0.05805	ug/l	8.78	#VALUE!		2406.89	2556.91	2390.22
56 Fe #1	1.088	1.088	ug/l	2.08	#VALUE!		12454.45	12504.52	12197.61
59 Co #3	0.0008598	0.0008598	ug/l	124.45	#VALUE!		63.34	76.67	93.34
60 Ni #2	0.02594	0.02594	ug/l	25.39	#VALUE!		70.00	72.22	84.45
63 Cu #2	-0.04816	-0.04816	ug/l	18.56	#VALUE!		290.01	235.56	251.12
66 Zn #3	0.004157	0.004157	ug/l	1171.30	#VALUE!		716.70	586.69	533.35
75 As #2	0.005711	0.005711	ug/l	120.89	#VALUE!		15.00	18.00	14.00
78 Se #1	-0.04105	-0.04105	ug/l	13.93	#VALUE!		10.67	8.00	8.33
88 Sr #3	0.005059	0.005059	ug/l	11.65	#VALUE!		293.34	276.68	263.34
95 Mo #3	0.01602	0.01602	ug/l	54.65	#VALUE!		206.67	153.34	150.00
107 Ag #3	0.0005992	0.0005992	ug/l	359.48	#VALUE!		103.34	116.67	150.01
111 Cd #3	0.000696	0.000696	ug/l	243.10	#VALUE!		3.29	9.97	9.97
118 Sn #3	-0.02459	-0.02459	ug/l	32.13	#VALUE!		553.36	496.69	450.02
121 Sb #3	0.01677	0.01677	ug/l	14.53	#VALUE!		203.34	173.34	166.67
137 Ba #3	0.005624	0.005624	ug/l	62.18	#VALUE!		66.67	63.34	43.33
202 Hg #3	-0.0003288	-0.0003288	ug/l	207.24	#VALUE!		111.00	111.33	109.00
205 Tl #3	-0.00265	-0.00265	ug/l	50.60	#VALUE!		136.67	123.34	76.67
208 Pb #3	-0.0196	-0.0196	ug/l	5.49	#VALUE!		596.69	626.70	673.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	408111.91	0.25	442436.88	92.2	60 - 125		409278.47	407552.97	407504.31
45 Sc #1	400428.66	0.63	456299.72	87.8	60 - 125		403256.78	398361.09	399668.16
45 Sc #3	696714.25	0.35	765061.25	91.1	60 - 125		695396.44	695219.81	699526.56
74 Ge #1	139859.64	0.75	153441.28	91.1	60 - 125		140897.53	138800.45	139880.95
74 Ge #2	42553.95	0.92	47804.94	89.0	60 - 125		42629.71	42129.54	42902.58
74 Ge #3	211506.81	0.44	224564.78	94.2	60 - 125		210526.56	211601.11	212392.75
89 Y #3	1256562.40	0.25	1302847.50	96.4	60 - 125		1260187.80	1254878.30	1254621.10
115 In #3	1265769.90	1.17	1366177.60	92.7	60 - 125		1258695.60	1255824.60	1282789.50
159 Tb #3	1766258.50	0.61	2052817.90	86.0	60 - 125		1760015.40	1760055.80	1778704.10
209 Bi #3	1117021.50	3.29	1405468.50	79.5	60 - 125		1142165.30	1074784.00	1134115.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\179SMPL.D\179SMPL.D#
 Date Acquired: Aug 27 2014 02:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-7-b
 Misc Info: 3005 1/5
 Vial Number: 2501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.00192	0.00192	ug/l	112.66	100.00		0.00	6.67	6.67
11 B # 3	2.978	2.978	ug/l	1.23	1800.00		6417.88	6397.87	6404.56
23 Na # 1	2103	2103	ug/l	0.79	81000.00		6638741.50	6634353.00	6639578.00
24 Mg # 1	2504	2504	ug/l	0.28	81000.00		5438641.00	5475733.50	5498666.50
27 Al # 1	1.274	1.274	ug/l	3.59	81000.00		4757.37	4897.43	4704.09
39 K # 2	237	237	ug/l	0.83	81000.00		83614.55	83775.48	85483.23
40 Ca # 1	18290	18290	ug/l	0.81	81000.00		109967600.00	109399340.00	109992620.00
47 Ti # 3	0.1438	0.1438	ug/l	21.75	1620.00		260.01	216.68	280.01
51 V # 2	0.2252	0.2252	ug/l	4.88	1800.00		717.80	772.25	747.80
52 Cr # 2	0.05961	0.05961	ug/l	4.08	1800.00		474.46	462.23	470.01
55 Mn # 3	100.5	100.5	ug/l	0.80	1800.00		1807635.10	1807243.50	1812374.40
56 Fe # 1	2.379	2.379	ug/l	1.85	81000.00		22834.53	22297.14	22777.79
59 Co # 3	0.05568	0.05568	ug/l	5.96	1800.00		853.38	840.04	776.70
60 Ni # 2	0.4831	0.4831	ug/l	1.11	1800.00		560.01	556.68	572.24
63 Cu # 2	-0.03612	-0.03612	ug/l	11.06	1800.00		276.67	280.00	301.12
66 Zn # 3	0.6575	0.6575	ug/l	8.07	1800.00		1973.49	1933.49	1793.47
75 As # 2	1.732	1.732	ug/l	3.40	100.00		532.01	563.68	571.34
78 Se # 1	-0.03103	-0.03103	ug/l	31.10	100.00		10.00	14.00	10.00
88 Sr # 3	52.19	52.19	ug/l	0.55	1800.00		1252305.30	1264714.10	1264053.30
95 Mo # 3	2.502	2.502	ug/l	0.51	1800.00		9386.08	9342.73	9299.37
107 Ag # 3	-0.001572	-0.001572	ug/l	207.06	100.00		130.00	103.34	63.34
111 Cd # 3	0.003833	0.003833	ug/l	77.82	100.00		7.94	21.28	14.62
118 Sn # 3	-0.002314	-0.002314	ug/l	220.01	1800.00		680.04	656.70	610.03
121 Sb # 3	0.03203	0.03203	ug/l	9.68	100.00		286.68	336.68	296.68
137 Ba # 3	131	131	ug/l	0.56	1800.00		485812.03	485261.56	489705.41
202 Hg # 3	-0.008825	-0.008825	ug/l	16.98	5.00		81.33	91.00	87.33
205 Tl # 3	-0.004001	-0.004001	ug/l	37.27	20.00		106.68	40.00	93.34
208 Pb # 3	1.986	1.986	ug/l	0.21	1800.00		65511.48	66202.18	66363.23
232 Th # 3	0.07144	0.07144	ug/l	7.73	#VALUE!		2640.31	2523.63	2316.91
238 U # 3	0.1682	0.1682	ug/l	1.20	#VALUE!		5514.47	5587.86	5684.58

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	410054.16	0.70	442436.88	92.7	60 - 125		407511.72	409470.47	413180.31
45 Sc # 1	404925.84	0.79	456299.72	88.7	60 - 125		401940.91	404548.84	408287.75
45 Sc # 3	704081.44	0.05	765061.25	92.0	60 - 125		703693.13	704299.25	704251.94
74 Ge # 1	138777.47	0.49	153441.28	90.4	60 - 125		138193.97	138615.92	139522.53
74 Ge # 2	41189.30	0.53	47804.94	86.2	60 - 125		41002.62	41135.06	41430.22
74 Ge # 3	209833.89	0.84	224564.78	93.4	60 - 125		207818.08	211006.81	210676.77
89 Y # 3	1242826.30	0.78	1302847.50	95.4	60 - 125		1234593.50	1240403.50	1253481.60
115 In # 3	1246546.50	0.12	1366177.60	91.2	60 - 125		1245368.90	1248312.10	1245958.50
159 Tb # 3	1767979.80	0.89	2052817.90	86.1	60 - 125		1749961.90	1775127.00	1778850.40
209 Bi # 3	1063799.00	0.76	1405468.50	75.7	60 - 125		1054843.50	1070565.90	1065987.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\180SMPL.D\180SMPL.D#
 Date Acquired: Aug 27 2014 02:29 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104486-i-8-b
 Misc Info: 3005 1/5
 Vial Number: 2502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002567	0.002567	ug/l	42.42	100.00		3.33	6.67	6.67
11 B # 3	3.461	3.461	ug/l	1.56	1800.00		7024.75	6971.45	7154.84
23 Na # 1	2295	2295	ug/l	21.76	81000.00		6917004.00	7203685.00	7223205.00
24 Mg # 1	2042	2042	ug/l	21.75	81000.00		4232995.00	4432417.00	4495471.00
27 Al # 1	1.933	1.933	ug/l	27.03	81000.00		6257.87	6427.98	6497.93
39 K # 2	316.5	316.5	ug/l	2.15	81000.00		105298.84	108707.64	108523.41
40 Ca # 1	19440	19440	ug/l	21.26	81000.00		111444570.00	115477300.00	117469200.00
47 Ti # 3	0.1507	0.1507	ug/l	8.20	1620.00		273.34	260.01	250.01
51 V # 2	0.3982	0.3982	ug/l	1.46	1800.00		1163.38	1136.71	1138.93
52 Cr # 2	0.08556	0.08556	ug/l	10.63	1800.00		564.46	540.01	510.01
55 Mn # 3	27.83	27.83	ug/l	0.27	1800.00		501948.13	499141.50	503261.75
56 Fe # 1	0.59	0.59	ug/l	32.17	81000.00		8805.69	8368.76	8432.14
59 Co # 3	0.02028	0.02028	ug/l	14.32	1800.00		313.35	383.35	326.68
60 Ni # 2	0.2785	0.2785	ug/l	7.14	1800.00		317.78	344.45	357.78
63 Cu # 2	0.02454	0.02454	ug/l	48.74	1800.00		500.01	436.68	441.12
66 Zn # 3	1.145	1.145	ug/l	2.59	1800.00		2910.32	2773.62	2903.63
75 As # 2	0.6154	0.6154	ug/l	5.28	100.00		201.67	195.67	214.34
78 Se # 1	-0.02641	-0.02641	ug/l	46.04	100.00		11.00	13.00	12.67
88 Sr # 3	63.83	63.83	ug/l	0.92	1800.00		1526370.00	1539673.30	1554042.00
95 Mo # 3	1.723	1.723	ug/l	2.66	1800.00		6421.37	6671.43	6501.38
107 Ag # 3	-0.003802	-0.003802	ug/l	37.61	100.00		73.34	63.34	93.34
111 Cd # 3	0.005544	0.005544	ug/l	71.66	100.00		11.92	28.53	15.24
118 Sn # 3	-0.000728	-0.000728	ug/l	762.23	1800.00		696.70	616.70	686.70
121 Sb # 3	0.03352	0.03352	ug/l	23.74	100.00		250.01	333.35	383.35
137 Ba # 3	99.12	99.12	ug/l	0.92	1800.00		370536.31	372751.66	372390.31
202 Hg # 3	-0.01308	-0.01308	ug/l	17.47	5.00		74.33	67.33	80.34
205 Tl # 3	-0.003465	-0.003465	ug/l	28.46	20.00		110.00	66.67	100.00
208 Pb # 3	0.1363	0.1363	ug/l	3.14	1800.00		5733.94	5580.58	5713.93
232 Th # 3	0.03269	0.03269	ug/l	14.46	#VALUE!		1410.11	1263.43	1110.07
238 U # 3	0.3111	0.3111	ug/l	0.35	#VALUE!		10297.05	10310.42	10357.13

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408338.94	0.27	442436.88	92.3	60 - 125		408185.09	407302.47	409529.19
45 Sc # 1	410181.31	20.34	456299.72	89.9	60 - 125		500172.97	335436.69	394934.22
45 Sc # 3	708834.00	1.20	765061.25	92.7	60 - 125		702707.56	718516.38	705278.13
74 Ge # 1	139707.28	15.79	153441.28	91.0	60 - 125		162494.47	118461.27	138166.09
74 Ge # 2	40753.96	0.27	47804.94	85.3	60 - 125		40817.79	40817.83	40626.26
74 Ge # 3	209652.06	0.67	224564.78	93.4	60 - 125		210231.73	208041.14	210683.30
89 Y # 3	1241725.90	0.27	1302847.50	95.3	60 - 125		1243506.00	1237817.80	1243854.10
115 In # 3	1258791.40	0.67	1366177.60	92.1	60 - 125		1263938.00	1249002.00	1263434.00
159 Tb # 3	1756319.80	1.37	2052817.90	85.6	60 - 125		1728891.30	1766007.90	1774060.40
209 Bi # 3	1063106.90	0.32	1405468.50	75.6	60 - 125		1064762.80	1059221.60	1065336.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\181SMPL.D\181SMPL.D#
 Date Acquired: Aug 27 2014 02:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104438-i-9-b
 Misc Info: 3005 1/5
 Vial Number: 2503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003206	0.003206	ug/l	59.76	100.00		10.00	6.67	3.33
11 B # 3	5.619	5.619	ug/l	2.69	1800.00		10082.83	9866.06	10166.21
23 Na # 1	8897	8897	ug/l	0.67	81000.00		27547656.00	28008072.00	28029100.00
24 Mg # 1	3207	3207	ug/l	0.66	81000.00		6963582.50	7023068.00	7081710.00
27 Al # 1	35.9	35.9	ug/l	0.96	81000.00		95160.87	94063.25	95145.52
39 K # 2	317.5	317.5	ug/l	0.57	81000.00		108463.27	107795.95	108613.72
40 Ca # 1	23090	23090	ug/l	0.61	81000.00		138609440.00	138398370.00	139767680.00
47 Ti # 3	0.6059	0.6059	ug/l	12.14	1620.00		806.88	713.37	656.70
51 V # 2	0.5652	0.5652	ug/l	1.17	1800.00		1554.52	1514.52	1572.30
52 Cr # 2	0.1813	0.1813	ug/l	1.15	1800.00		820.03	811.14	814.47
55 Mn # 3	0.549	0.549	ug/l	2.26	1800.00		11323.77	11343.83	10986.87
56 Fe # 1	13.18	13.18	ug/l	1.01	81000.00		106212.95	108968.07	107294.05
59 Co # 3	0.0414	0.0414	ug/l	11.54	1800.00		656.70	553.36	670.03
60 Ni # 2	0.3389	0.3389	ug/l	3.17	1800.00		417.79	390.01	410.01
63 Cu # 2	0.05761	0.05761	ug/l	12.18	1800.00		535.57	562.24	575.57
66 Zn # 3	0.5695	0.5695	ug/l	3.05	1800.00		1690.12	1763.47	1706.79
75 As # 2	0.2226	0.2226	ug/l	5.95	100.00		78.00	84.00	85.67
78 Se # 1	0.01473	0.01473	ug/l	102.38	100.00		25.00	18.33	23.67
88 Sr # 3	80.33	80.33	ug/l	1.16	1800.00		1918419.80	1954859.40	1957827.30
95 Mo # 3	0.5944	0.5944	ug/l	3.59	1800.00		2286.88	2240.20	2386.90
107 Ag # 3	-0.003835	-0.003835	ug/l	21.38	100.00		80.00	80.00	66.67
111 Cd # 3	0.001995	0.001995	ug/l	152.88	100.00		2.83	16.17	12.81
118 Sn # 3	-0.0199	-0.0199	ug/l	35.88	1800.00		570.03	493.36	513.36
121 Sb # 3	0.04002	0.04002	ug/l	6.25	100.00		343.35	396.68	383.35
137 Ba # 3	66.79	66.79	ug/l	1.68	1800.00		247559.94	247902.13	249715.75
202 Hg # 3	-0.02267	-0.02267	ug/l	9.44	5.00		50.00	40.00	51.00
205 Tl # 3	-0.002714	-0.002714	ug/l	18.25	20.00		103.34	123.34	103.34
208 Pb # 3	-0.004504	-0.004504	ug/l	48.56	1800.00		1156.72	1153.39	1036.71
232 Th # 3	0.05143	0.05143	ug/l	5.16	#VALUE!		1793.51	1910.19	1860.18
238 U # 3	0.6311	0.6311	ug/l	3.00	#VALUE!		20727.99	20714.49	21225.26

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408047.91	0.82	442436.88	92.2	60 - 125		404383.94	410884.22	408875.59
45 Sc # 1	405861.34	0.34	456299.72	88.9	60 - 125		404322.59	407036.31	406225.13
45 Sc # 3	698881.38	0.14	765061.25	91.3	60 - 125		698778.25	699874.69	697991.38
74 Ge # 1	138733.27	0.90	153441.28	90.4	60 - 125		137337.52	139143.86	139718.42
74 Ge # 2	40932.43	0.91	47804.94	85.6	60 - 125		41034.87	40521.52	41240.91
74 Ge # 3	209061.27	0.38	224564.78	93.1	60 - 125		208144.97	209529.30	209509.53
89 Y # 3	1245327.10	0.83	1302847.50	95.6	60 - 125		1242037.50	1237051.60	1256892.50
115 In # 3	1247911.30	1.91	1366177.60	91.3	60 - 125		1220438.40	1262113.40	1261182.10
159 Tb # 3	1753519.80	0.23	2052817.90	85.4	60 - 125		1752637.90	1749947.50	1757973.90
209 Bi # 3	1062360.40	1.80	1405468.50	75.6	60 - 125		1082963.60	1058843.10	1045274.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

QCS QC Report

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\182_QCS.D\182_QCS.D#
 Date Acquired: Aug 27 2014 02:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CRI
 Misc Info:
 Vial Number: 4502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: QCS
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected QC Range(%)	Flag
9 Be	0.10 ug/l	20.63	0.10 69.5 - 130	
11 B	18.61 ug/l	2.33	20.00 69.5 - 130	
23 Na	42.50 ug/l	1.17	50.00 69.5 - 130	
24 Mg	56.19 ug/l	0.87	50.00 69.5 - 130	
27 Al	11.41 ug/l	0.56	10.00 69.5 - 130	
39 K	40.59 ug/l	26.09	50.00 69.5 - 130	
40 Ca	58.63 ug/l	0.28	50.00 69.5 - 130	
47 Ti	1.33 ug/l	3.28	1.00 69.5 - 130	Fail
51 V	0.98 ug/l	16.76	1.00 69.5 - 130	
52 Cr	0.99 ug/l	18.11	1.00 69.5 - 130	
55 Mn	1.03 ug/l	1.17	1.00 69.5 - 130	
56 Fe	23.56 ug/l	0.24	20.00 69.5 - 130	
59 Co	0.10 ug/l	6.84	0.10 69.5 - 130	
60 Ni	0.96 ug/l	14.37	1.00 69.5 - 130	
63 Cu	0.93 ug/l	14.80	1.00 69.5 - 130	
66 Zn	3.97 ug/l	2.51	4.00 69.5 - 130	
75 As	0.49 ug/l	17.07	0.50 69.5 - 130	
78 Se	0.41 ug/l	6.73	0.50 69.5 - 130	
88 Sr	0.19 ug/l	1.80	0.20 69.5 - 130	
95 Mo	0.96 ug/l	1.38	1.00 69.5 - 130	
107 Ag	0.20 ug/l	6.61	0.20 69.5 - 130	
111 Cd	0.08 ug/l	17.87	0.10 69.5 - 130	
118 Sn	0.95 ug/l	4.70	1.00 69.5 - 130	
121 Sb	0.96 ug/l	0.52	1.00 69.5 - 130	
137 Ba	0.98 ug/l	3.12	1.00 69.5 - 130	
202 Hg	0.12 ug/l	8.05	0.16 69.5 - 130	
205 Tl	0.18 ug/l	1.74	0.20 69.5 - 130	
208 Pb	0.26 ug/l	2.73	0.30 69.5 - 130	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	407123.47	0.12	442436.88	92.0	60 - 125	
45 Sc	398890.03	0.24	456299.72	87.4	60 - 125	
45 Sc	687662.38	0.63	765061.25	89.9	60 - 125	
74 Ge	138493.52	0.43	153441.28	90.3	60 - 125	
74 Ge	42484.08	13.23	47804.94	88.9	60 - 125	
74 Ge	207514.17	0.59	224564.78	92.4	60 - 125	
89 Y	1233643.40	0.19	1302847.50	94.7	60 - 125	
115 In	1249760.60	0.21	1366177.60	91.5	60 - 125	
159 Tb	1729173.80	1.10	2052817.90	84.2	60 - 125	
209 Bi	1068667.90	0.23	1405468.50	76.0	60 - 125	

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\183_CCV.D\183_CCV.D#
 Date Acquired: Aug 27 2014 02:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	47.87 ug/l	1.07	50.00	89.5 - 110		85173.73	85468.81	85994.52
11 B	94.89 ug/l	1.45	100.00	89.5 - 110		134194.31	135411.64	136962.84
23 Na	5260 ug/l	0.94	5000.00	89.5 - 110		16645410.00	16764831.00	16832456.00
24 Mg	5177 ug/l	0.35	5000.00	89.5 - 110		11539094.00	11483141.00	11486593.00
27 Al	536.4 ug/l	0.47	500.00	89.5 - 110		1414808.50	1410971.30	1422073.40
39 K	5186 ug/l	1.56	5000.00	89.5 - 110		1648492.40	1677450.80	1629810.80
40 Ca	5335 ug/l	0.26	5000.00	89.5 - 110		32646150.00	32475686.00	32641572.00
47 Ti	50.98 ug/l	1.76	50.00	89.5 - 110		54098.53	54406.02	55499.15
51 V	50.33 ug/l	0.90	50.00	89.5 - 110		123413.26	125054.02	123735.14
52 Cr	49.75 ug/l	0.31	50.00	89.5 - 110		149243.61	148681.23	147959.20
55 Mn	512.4 ug/l	0.95	500.00	89.5 - 110		9317009.00	9335083.00	9442107.00
56 Fe	5381 ug/l	0.21	5000.00	89.5 - 110		43058100.00	42545236.00	43020904.00
59 Co	50.33 ug/l	1.00	50.00	89.5 - 110		697038.44	695343.63	696839.88
60 Ni	50.71 ug/l	0.38	50.00	89.5 - 110		56424.33	56092.06	55820.18
63 Cu	49.13 ug/l	0.21	50.00	89.5 - 110		149495.86	149047.05	149562.50
66 Zn	45.62 ug/l	0.96	50.00	89.5 - 110		92451.43	92398.77	92160.18
75 As	49.1 ug/l	0.18	50.00	89.5 - 110		15954.30	15825.52	15853.54
78 Se	46.72 ug/l	1.02	50.00	89.5 - 110		11400.24	11470.29	11434.26
88 Sr	49.16 ug/l	1.68	50.00	89.5 - 110		1200804.50	1204647.10	1222521.40
95 Mo	51.44 ug/l	1.14	50.00	89.5 - 110		191976.38	193624.08	191777.98
107 Ag	48.95 ug/l	0.82	50.00	89.5 - 110		511291.19	511939.78	512302.97
111 Cd	47.75 ug/l	1.19	50.00	89.5 - 110		108261.26	107685.55	107661.05
118 Sn	49.08 ug/l	0.73	50.00	89.5 - 110		348740.88	346307.22	352127.66
121 Sb	47.63 ug/l	0.48	50.00	89.5 - 110		403199.72	405991.59	407153.22
137 Ba	49.28 ug/l	0.62	50.00	89.5 - 110		185234.72	184480.08	186836.42
202 Hg	2.357 ug/l	0.25	2.50	89.5 - 110		6815.47	6767.11	6827.80
205 Tl	9.29 ug/l	0.53	10.00	89.5 - 110		222395.16	224133.45	223734.27
208 Pb	46.53 ug/l	0.35	50.00	89.5 - 110		1525677.00	1525147.50	1521900.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	413118.59	0.84	442436.88	93.4	60 - 125		411437.03	417126.38	410792.34
45 Sc	411836.03	0.53	456299.72	90.3	60 - 125		413733.72	409476.03	412298.31
45 Sc	727411.44	1.36	765061.25	95.1	60 - 125		717849.38	737663.63	726721.31
74 Ge	140910.89	0.74	153441.28	91.8	60 - 125		141452.88	139703.89	141575.94
74 Ge	42503.45	0.24	47804.94	88.9	60 - 125		42620.77	42425.83	42463.75
74 Ge	213232.92	0.88	224564.78	95.0	60 - 125		211191.78	214891.56	213615.47
89 Y	1266223.10	0.90	1302847.50	97.2	60 - 125		1263670.40	1278662.30	1256336.80
115 In	1262829.50	0.92	1366177.60	92.4	60 - 125		1252037.30	1261348.50	1275102.60
159 Tb	1775209.80	0.24	2052817.90	86.5	60 - 125		1775496.60	1770787.30	1779345.40
209 Bi	1065112.80	0.15	1405468.50	75.8	60 - 125		1064085.30	1066995.00	1064258.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\184_CCB.D\184_CCB.D#
 Date Acquired: Aug 27 2014 03:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.003186	0.003186	ug/l	118.33	#VALUE!		0.00	13.33	6.67
11 B #3	1.338	1.338	ug/l	5.03	#VALUE!		4173.90	4007.18	4147.20
23 Na #1	-11.25	-11.25	ug/l	0.89	#VALUE!		50890.94	50436.52	50420.05
24 Mg #1	0.4062	0.4062	ug/l	6.80	#VALUE!		1823.47	1916.82	1790.14
27 Al #1	0.4058	0.4058	ug/l	7.18	#VALUE!		2546.91	2426.88	2540.25
39 K #2	-2.532	-2.532	ug/l	540.68	#VALUE!		16295.24	8862.32	8688.91
40 Ca #1	2.297	2.297	ug/l	1.19	#VALUE!		36636.15	36629.32	36696.18
47 Ti #3	-0.06713	-0.06713	ug/l	13.01	#VALUE!		36.67	23.33	40.00
51 V #2	0.02378	0.02378	ug/l	22.94	#VALUE!		260.00	281.12	284.45
52 Cr #2	-0.01236	-0.01236	ug/l	53.58	#VALUE!		248.89	290.01	272.23
55 Mn #3	0.05312	0.05312	ug/l	11.02	#VALUE!		2243.54	2466.91	2340.22
56 Fe #1	1.185	1.185	ug/l	3.10	#VALUE!		12828.14	13438.56	13094.95
59 Co #3	0.001298	0.001298	ug/l	48.24	#VALUE!		76.67	93.34	80.00
60 Ni #2	0.03612	0.03612	ug/l	11.40	#VALUE!		92.22	85.56	83.33
63 Cu #2	-0.05152	-0.05152	ug/l	14.74	#VALUE!		227.78	247.78	272.23
66 Zn #3	0.03744	0.03744	ug/l	106.44	#VALUE!		603.36	763.37	660.03
75 As #2	0.008984	0.008984	ug/l	162.18	#VALUE!		12.00	17.00	21.33
78 Se #1	-0.02689	-0.02689	ug/l	14.07	#VALUE!		12.33	11.67	13.33
88 Sr #3	0.004398	0.004398	ug/l	81.08	#VALUE!		353.35	230.01	190.01
95 Mo #3	0.01778	0.01778	ug/l	62.09	#VALUE!		180.01	220.01	136.67
107 Ag #3	4.932E-005	4.932E-005	ug/l	3698.30	#VALUE!		96.67	133.34	126.67
111 Cd #3	0.001631	0.001631	ug/l	321.21	#VALUE!		6.63	23.29	-0.03
118 Sn #3	-0.0289	-0.0289	ug/l	17.66	#VALUE!		500.02	433.35	493.36
121 Sb #3	0.01637	0.01637	ug/l	27.25	#VALUE!		210.01	136.67	193.34
137 Ba #3	0.007444	0.007444	ug/l	13.02	#VALUE!		63.34	63.34	70.00
202 Hg #3	0.002975	0.002975	ug/l	29.82	#VALUE!		120.67	117.67	118.00
205 Tl #3	-0.003504	-0.003504	ug/l	13.62	#VALUE!		86.67	103.34	83.34
208 Pb #3	-0.01864	-0.01864	ug/l	1.82	#VALUE!		646.69	666.69	660.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	408886.13	0.46	442436.88	92.4	60 - 125		407070.97	408778.25	410809.16
45 Sc #1	399792.91	0.35	456299.72	87.6	60 - 125		399853.97	401146.44	398378.28
45 Sc #3	696116.94	0.44	765061.25	91.0	60 - 125		695897.94	699306.88	693145.94
74 Ge #1	140070.64	0.74	153441.28	91.3	60 - 125		140873.97	140435.81	138902.17
74 Ge #2	42672.70	0.60	47804.94	89.3	60 - 125		42651.97	42939.16	42426.93
74 Ge #3	210423.86	0.32	224564.78	93.7	60 - 125		210085.72	211188.55	209997.34
89 Y #3	1238830.90	0.46	1302847.50	95.1	60 - 125		1236309.10	1234802.50	1245381.30
115 In #3	1281479.60	0.24	1366177.60	93.8	60 - 125		1278562.50	1281192.80	1284683.90
159 Tb #3	1751609.10	1.06	2052817.90	85.3	60 - 125		1739931.10	1741777.90	1773118.30
209 Bi #3	1132259.00	1.47	1405468.50	80.6	60 - 125		1123810.30	1121504.60	1151462.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\185SMPL.D\185SMPL.D#
 Date Acquired: Aug 27 2014 03:09 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345489_1-a
 Misc Info: DW
 Vial Number: 2101
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003068	0.003068	ug/l	0.71	100.00		6.67	6.67	6.67
11 B #3	1.482	1.482	ug/l	4.14	1800.00		4447.29	4537.30	4380.62
23 Na #1	-8.37	-8.37	ug/l	1.81	81000.00		61866.25	61361.37	61471.69
24 Mg #1	0.7464	0.7464	ug/l	2.35	81000.00		2700.27	2670.26	2636.92
27 Al #1	1.919	1.919	ug/l	1.85	81000.00		6521.26	6574.62	6724.67
39 K #2	-9.878	-9.878	ug/l	5.44	81000.00		9319.20	9119.13	9102.45
40 Ca #1	4.524	4.524	ug/l	0.95	81000.00		51711.11	51533.92	51641.03
47 Ti #3	-0.03382	-0.03382	ug/l	23.91	1620.00		60.00	76.67	73.34
51 V #2	0.06234	0.06234	ug/l	6.50	1800.00		384.45	366.67	388.90
52 Cr #2	-0.03021	-0.03021	ug/l	28.91	1800.00		193.34	224.45	250.00
55 Mn #3	0.01911	0.01911	ug/l	0.69	1800.00		1816.81	1803.48	1820.14
56 Fe #1	1.163	1.163	ug/l	1.25	81000.00		13468.54	13465.28	13308.47
59 Co #3	-0.0005163	-0.0005163	ug/l	148.60	1800.00		53.34	73.34	56.67
60 Ni #2	0.1028	0.1028	ug/l	14.60	1800.00		150.00	183.34	162.22
63 Cu #2	-0.04945	-0.04945	ug/l	15.34	1800.00		278.89	234.45	273.34
66 Zn #3	1.392	1.392	ug/l	7.44	1800.00		3283.72	3687.14	3563.79
75 As #2	0.01831	0.01831	ug/l	44.48	100.00		17.33	20.67	23.00
78 Se #1	-0.05245	-0.05245	ug/l	12.69	100.00		4.67	6.67	8.00
88 Sr #3	0.007534	0.007534	ug/l	5.25	1800.00		336.68	353.35	343.35
95 Mo #3	-0.007084	-0.007084	ug/l	105.79	1800.00		53.33	96.67	110.00
107 Ag #3	-0.002665	-0.002665	ug/l	20.08	100.00		86.67	90.00	100.00
111 Cd #3	0.002949	0.002949	ug/l	46.02	100.00		9.99	13.31	16.64
118 Sn #3	0.01743	0.01743	ug/l	55.22	1800.00		863.38	736.70	886.72
121 Sb #3	0.007467	0.007467	ug/l	13.57	100.00		96.67	103.34	116.67
137 Ba #3	0.02719	0.02719	ug/l	25.22	1800.00		116.67	143.34	173.34
202 Hg #3	-0.01609	-0.01609	ug/l	6.64	5.00		66.67	69.33	64.67
205 Tl #3	-0.004327	-0.004327	ug/l	8.66	20.00		66.67	83.34	70.00
208 Pb #3	0.005896	0.005896	ug/l	488.47	1800.00		2556.63	980.05	900.04
232 Th #3	0.01394	0.01394	ug/l	10.97	#VALUE!		760.04	766.72	680.04
238 U #3	0.00117	0.00117	ug/l	26.09	#VALUE!		76.67	73.34	56.67

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	422719.03	0.60	442436.88	95.5	60 - 125		419942.44	423345.03	424869.56
45 Sc #1	414072.97	0.35	456299.72	90.7	60 - 125		412422.78	415157.75	414638.38
45 Sc #3	721923.81	1.50	765061.25	94.4	60 - 125		715548.13	715816.13	734407.06
74 Ge #1	144657.92	0.38	153441.28	94.3	60 - 125		144169.52	145250.81	144553.44
74 Ge #2	43770.08	0.80	47804.94	91.6	60 - 125		43545.12	43594.09	44171.02
74 Ge #3	219726.95	0.35	224564.78	97.8	60 - 125		220021.45	218857.28	220302.11
89 Y #3	1280056.90	1.22	1302847.50	98.3	60 - 125		1271072.00	1271054.00	1298044.80
115 In #3	1311574.80	1.49	1366177.60	96.0	60 - 125		1307723.80	1294312.60	1332688.10
159 Tb #3	1793212.90	1.40	2052817.90	87.4	60 - 125		1775038.80	1782834.50	1821765.60
209 Bi #3	1175274.30	0.78	1405468.50	83.6	60 - 125		1172001.50	1168178.00	1185643.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\186SMPL.D\186SMPL.D#
 Date Acquired: Aug 27 2014 03:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345489_2-a
 Misc Info: DW
 Vial Number: 2102
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.79	20.79	ug/l	0.73	100.00		37987.45	38371.43	38444.99
11 B #3	77.21	77.21	ug/l	1.23	1800.00		115019.36	112871.09	114242.11
23 Na #1	2161	2161	ug/l	0.96	81000.00		6945673.50	7027876.50	6964050.00
24 Mg #1	2158	2158	ug/l	0.45	81000.00		4819585.50	4830525.00	4826891.00
27 Al #1	2146	2146	ug/l	1.09	81000.00		5644693.50	5721977.50	5724617.50
39 K #2	2067	2067	ug/l	0.83	81000.00		674692.81	684018.38	683105.75
40 Ca #1	2257	2257	ug/l	1.34	81000.00		13736612.00	14009510.00	13922396.00
47 Ti #3	41.43	41.43	ug/l	1.40	1620.00		44456.50	44509.87	44757.37
51 V #2	40.27	40.27	ug/l	0.27	1800.00		101469.99	101382.87	101744.66
52 Cr #2	40.34	40.34	ug/l	0.60	1800.00		123164.32	123541.23	123151.92
55 Mn #3	212.1	212.1	ug/l	0.95	1800.00		3947357.00	3937626.50	4010475.00
56 Fe #1	2231	2231	ug/l	0.79	81000.00		17874124.00	17993718.00	17811978.00
59 Co #3	21.16	21.16	ug/l	0.97	1800.00		298454.09	299466.00	300450.22
60 Ni #2	41.48	41.48	ug/l	0.30	1800.00		46775.48	46708.60	47342.41
63 Cu #2	40.32	40.32	ug/l	0.65	1800.00		124757.72	125855.25	125548.40
66 Zn #3	42.88	42.88	ug/l	1.02	1800.00		88505.47	88861.78	89048.66
75 As #2	43.34	43.34	ug/l	0.17	100.00		14293.92	14304.27	14389.66
78 Se #1	45.63	45.63	ug/l	1.16	100.00		11335.54	11480.63	11404.91
88 Sr #3	40.49	40.49	ug/l	0.18	1800.00		1012292.50	1004909.80	1013472.30
95 Mo #3	41.52	41.52	ug/l	0.80	1800.00		159480.73	159302.89	160009.88
107 Ag #3	0.003116	0.003116	ug/l	36.49	100.00		140.00	166.67	153.34
111 Cd #3	20.5	20.5	ug/l	0.81	100.00		46928.71	47673.92	48158.46
118 Sn #3	81.81	81.81	ug/l	0.70	1800.00		595028.13	596133.94	600567.25
121 Sb #3	20.48	20.48	ug/l	1.11	100.00		179056.67	177988.52	180402.83
137 Ba #3	39.93	39.93	ug/l	0.75	1800.00		154141.98	154142.31	154990.27
202 Hg #3	1.883	1.883	ug/l	0.52	5.00		5482.29	5491.97	5553.31
205 Tl #3	15.53	15.53	ug/l	0.21	20.00		376170.88	377785.25	377105.66
208 Pb #3	19.62	19.62	ug/l	0.44	1800.00		648495.19	647260.44	653148.19
232 Th #3	20.72	20.72	ug/l	2.54	#VALUE!		694258.56	701339.81	705996.44
238 U #3	20.13	20.13	ug/l	2.24	#VALUE!		703135.63	706774.44	715444.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	425614.56	0.92	442436.88	96.2	60 - 125		423436.44	423291.31	430115.81
45 Sc #1	414496.53	0.34	456299.72	90.8	60 - 125		415857.94	413055.78	414575.97
45 Sc #3	729552.13	1.06	765061.25	95.4	60 - 125		730980.00	736507.88	721168.50
74 Ge #1	143897.27	0.85	153441.28	93.8	60 - 125		144855.77	144319.70	142516.30
74 Ge #2	43455.34	0.46	47804.94	90.9	60 - 125		43394.84	43294.56	43676.63
74 Ge #3	218082.95	0.86	224564.78	97.1	60 - 125		219433.52	215930.47	218884.86
89 Y #3	1283921.10	0.63	1302847.50	98.5	60 - 125		1288487.00	1274647.40	1288629.00
115 In #3	1297300.90	0.78	1366177.60	95.0	60 - 125		1285962.00	1305244.60	1300696.00
159 Tb #3	1792092.60	0.35	2052817.90	87.3	60 - 125		1785000.60	1794687.90	1796589.50
209 Bi #3	1131009.00	2.74	1405468.50	80.5	60 - 125		1130592.10	1100222.90	1162212.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\187SMPL.D\187SMPL.D#
 Date Acquired: Aug 27 2014 03:23 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 11cs 680-345489_3-a
 Misc Info: DW
 Vial Number: 2103
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.4192	0.4192	ug/l	11.06	100.00		793.37	710.03	716.70
11 B # 3	22.13	22.13	ug/l	5.10	1800.00		32965.00	33208.70	32728.04
23 Na # 1	48.99	48.99	ug/l	2.89	81000.00		239721.48	237441.95	241789.58
24 Mg # 1	60.9	60.9	ug/l	1.24	81000.00		133813.95	134442.53	135119.00
27 Al # 1	13.57	13.57	ug/l	1.46	81000.00		36672.07	36665.56	37076.36
39 K # 2	43.85	43.85	ug/l	1.02	81000.00		25848.22	26198.77	26519.08
40 Ca # 1	300.7	300.7	ug/l	0.93	81000.00		1819248.80	1838336.30	1845910.40
47 Ti # 3	1.104	1.104	ug/l	10.34	1620.00		1230.08	1150.07	1270.08
51 V # 2	1.059	1.059	ug/l	2.73	1800.00		2863.58	2895.80	2799.12
52 Cr # 2	0.9958	0.9958	ug/l	2.86	1800.00		3354.77	3284.76	3291.43
55 Mn # 3	2.257	2.257	ug/l	4.71	1800.00		41744.25	42298.60	42008.13
56 Fe # 1	61.1	61.1	ug/l	2.06	81000.00		486271.97	480743.94	485690.09
59 Co # 3	0.4307	0.4307	ug/l	5.73	1800.00		5971.14	5937.77	5897.75
60 Ni # 2	0.3325	0.3325	ug/l	5.37	1800.00		420.01	398.90	437.79
63 Cu # 2	0.9934	0.9934	ug/l	2.55	1800.00		3478.14	3403.68	3478.14
66 Zn # 3	22.71	22.71	ug/l	5.34	1800.00		45607.04	45072.34	46051.65
75 As # 2	1.135	1.135	ug/l	5.30	100.00		390.01	398.01	365.34
78 Se # 1	0.5351	0.5351	ug/l	3.36	100.00		146.00	157.67	149.33
88 Sr # 3	0.2172	0.2172	ug/l	7.39	1800.00		5240.92	5094.20	5404.31
95 Mo # 3	1.185	1.185	ug/l	7.83	1800.00		4510.71	4517.36	4400.67
107 Ag # 3	1.045	1.045	ug/l	8.38	100.00		11023.75	10643.54	10990.44
111 Cd # 3	0.1028	0.1028	ug/l	15.51	100.00		252.35	242.35	209.04
118 Sn # 3	1.751	1.751	ug/l	8.91	1800.00		13128.65	12738.42	12875.10
121 Sb # 3	0.5278	0.5278	ug/l	8.58	100.00		4517.40	4320.67	4560.73
137 Ba # 3	2.171	2.171	ug/l	6.14	1800.00		7992.11	8012.14	8295.61
202 Hg # 3	0.09084	0.09084	ug/l	11.41	5.00		362.34	359.01	353.01
205 Tl # 3	0.2207	0.2207	ug/l	10.98	20.00		5524.46	5214.35	5164.34
208 Pb # 3	0.2874	0.2874	ug/l	8.92	1800.00		10455.09	10381.68	10198.33
232 Th # 3	0.1591	0.1591	ug/l	8.89	#VALUE!		5504.49	5494.48	5404.46
238 U # 3	0.003722	0.003722	ug/l	9.80	#VALUE!		126.67	166.67	166.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	408898.88	4.54	442436.88	92.4	60 - 125		387498.00	418285.34	420913.31
45 Sc # 1	406355.06	1.63	456299.72	89.1	60 - 125		398730.97	409720.88	410613.31
45 Sc # 3	690038.25	7.66	765061.25	90.2	60 - 125		630150.81	709820.13	730143.56
74 Ge # 1	141972.03	1.62	153441.28	92.5	60 - 125		139322.14	143416.86	143177.09
74 Ge # 2	42969.34	1.41	47804.94	89.9	60 - 125		42272.16	43256.69	43379.15
74 Ge # 3	210404.91	4.97	224564.78	93.7	60 - 125		198323.33	216333.75	216557.66
89 Y # 3	1211755.10	6.62	1302847.50	93.0	60 - 125		1119398.80	1251919.60	1263947.10
115 In # 3	1249386.10	6.67	1366177.60	91.5	60 - 125		1153496.80	1304099.00	1290562.60
159 Tb # 3	1724828.90	6.57	2052817.90	84.0	60 - 125		1593973.80	1785895.00	1794617.90
209 Bi # 3	1106148.80	7.48	1405468.50	78.7	60 - 125		1012119.70	1138504.00	1167822.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26H00.B\188SMPL.D\188SMPL.D#
 Date Acquired: Aug 27 2014 03:31 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-75-a
 Misc Info: DW
 Vial Number: 2104
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001274	0.001274	ug/l	146.00	100.00		6.67	3.33	0.00
11 B #3	13.94	13.94	ug/l	1.43	1800.00		21682.33	22486.73	21872.60
23 Na #1	8578	8578	ug/l	5.00	81000.00		26642360.00	26676100.00	26773798.00
24 Mg #1	4359	4359	ug/l	5.94	81000.00		9565144.00	9429009.00	9456063.00
27 Al #1	15.24	15.24	ug/l	5.99	81000.00		41118.00	40239.56	41164.79
39 K #2	1225	1225	ug/l	0.84	81000.00		400547.59	401326.41	402405.66
40 Ca #1	17110	17110	ug/l	4.71	81000.00		101825210.00	101982490.00	103182890.00
47 Ti #3	0.4874	0.4874	ug/l	10.43	1620.00		716.70	620.03	620.03
51 V #2	4.698	4.698	ug/l	2.12	1800.00		11750.43	12105.10	11645.94
52 Cr #2	0.07324	0.07324	ug/l	27.59	1800.00		581.13	528.90	470.01
55 Mn #3	11.47	11.47	ug/l	0.45	1800.00		215793.28	215176.00	217121.45
56 Fe #1	64.47	64.47	ug/l	5.41	81000.00		507981.75	506457.28	506379.31
59 Co #3	0.1359	0.1359	ug/l	1.01	1800.00		1960.16	1993.50	2026.83
60 Ni #2	5.202	5.202	ug/l	1.32	1800.00		5794.28	5765.40	5919.88
63 Cu #2	23.5	23.5	ug/l	0.44	1800.00		71492.93	72336.12	72196.53
66 Zn #3	1598	1598	ug/l	0.11	1800.00		3265901.50	3286350.30	3315559.50
75 As #2	0.1601	0.1601	ug/l	8.00	100.00		62.67	71.00	64.00
78 Se #1	0.135	0.135	ug/l	14.21	100.00		56.00	51.33	49.00
88 Sr #3	40.86	40.86	ug/l	0.64	1800.00		1010084.80	1005355.00	1012046.60
95 Mo #3	0.6054	0.6054	ug/l	4.42	1800.00		2340.24	2373.57	2503.58
107 Ag #3	0.007186	0.007186	ug/l	31.55	100.00		220.01	193.34	170.01
111 Cd #3	1.486	1.486	ug/l	3.61	100.00		3306.57	3403.25	3513.25
118 Sn #3	0.09288	0.09288	ug/l	17.96	1800.00		1450.11	1220.07	1383.43
121 Sb #3	0.1447	0.1447	ug/l	11.96	100.00		1126.74	1330.10	1403.43
137 Ba #3	2.816	2.816	ug/l	1.28	1800.00		10910.52	10656.98	10770.43
202 Hg #3	-0.009683	-0.009683	ug/l	51.92	5.00		67.67	91.00	95.00
205 Tl #3	0.007761	0.007761	ug/l	16.92	20.00		350.02	340.01	400.02
208 Pb #3	3.608	3.608	ug/l	0.73	1800.00		118562.93	119096.39	120621.53
232 Th #3	0.1078	0.1078	ug/l	10.82	#VALUE!		4140.72	3643.86	3663.89
238 U #3	0.002144	0.002144	ug/l	16.73	#VALUE!		110.00	93.34	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	416292.06	0.62	442436.88	94.1	60 - 125		414324.19	419240.16	415311.88
45 Sc #1	404030.22	5.05	456299.72	88.5	60 - 125		380699.47	412942.91	418448.38
45 Sc #3	755071.31	0.22	765061.25	98.7	60 - 125		754270.69	757012.25	753930.94
74 Ge #1	141176.64	2.13	153441.28	92.0	60 - 125		137717.50	142658.70	143153.73
74 Ge #2	42710.95	1.00	47804.94	89.3	60 - 125		42218.67	42908.13	43006.06
74 Ge #3	218238.42	0.74	224564.78	97.2	60 - 125		216894.14	217795.00	220026.14
89 Y #3	1271114.60	0.41	1302847.50	97.6	60 - 125		1265228.00	1275282.00	1272834.00
115 In #3	1280047.10	0.62	1366177.60	93.7	60 - 125		1284848.00	1284401.30	1270892.30
159 Tb #3	1776159.10	0.66	2052817.90	86.5	60 - 125		1762735.00	1784417.90	1781324.50
209 Bi #3	1114125.50	2.72	1405468.50	79.3	60 - 125		1080131.50	1123890.10	1138355.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24K00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\189SMPL.D\189SMPL.D#
 Date Acquired: Aug 27 2014 03:38 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-75-aSD
 Misc Info: DW 1/5
 Vial Number: 2105
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0002502	5.004E-005	ug/l	2174.30	100.00		0.00	0.00	3.33
11 B #3	16.725	3.345	ug/l	2.93	1800.00		6754.68	6861.39	7048.11
23 Na #1	7905	1581	ug/l	15.29	81000.00		5517907.50	5503964.50	5360199.00
24 Mg #1	4101	820.2	ug/l	15.85	81000.00		1978686.30	1982434.40	1896349.40
27 Al #1	16.01	3.202	ug/l	14.85	81000.00		10753.27	10496.44	10833.30
39 K #2	1168.5	233.7	ug/l	0.84	81000.00		87555.96	87864.41	86309.95
40 Ca #1	15670	3134	ug/l	15.17	81000.00		20808748.00	20649644.00	20112616.00
47 Ti #3	0.3904	0.07808	ug/l	27.42	1620.00		180.01	206.67	163.34
51 V #2	4.6025	0.9205	ug/l	3.58	1800.00		2461.29	2535.75	2554.64
52 Cr #2	0.001702	0.0003404	ug/l	2757.30	1800.00		286.67	313.34	334.45
55 Mn #3	11.52	2.304	ug/l	0.80	1800.00		43434.55	43524.76	43133.89
56 Fe #1	59.6	11.92	ug/l	15.51	81000.00		107707.46	106295.90	104378.45
59 Co #3	0.1488	0.02976	ug/l	4.74	1800.00		460.02	470.02	500.02
60 Ni #2	5.385	1.077	ug/l	3.00	1800.00		1287.83	1226.72	1254.50
63 Cu #2	23.7	4.74	ug/l	1.72	1800.00		14879.40	15141.85	14962.81
66 Zn #3	1555	311	ug/l	0.41	1800.00		621416.38	625348.94	624539.81
75 As #2	0.10165	0.02033	ug/l	54.60	100.00		22.67	16.67	22.67
78 Se #1	-0.08995	-0.01799	ug/l	64.48	100.00		17.33	15.67	14.00
88 Sr #3	39.03	7.806	ug/l	1.06	1800.00		186761.61	188753.20	189554.19
95 Mo #3	0.5375	0.1075	ug/l	1.27	1800.00		516.69	520.02	510.02
107 Ag #3	-0.023585	-0.004717	ug/l	23.49	100.00		56.67	66.67	80.00
111 Cd #3	1.6615	0.3323	ug/l	3.79	100.00		756.59	736.59	793.26
118 Sn #3	-0.10775	-0.02155	ug/l	18.04	1800.00		510.02	506.69	556.69
121 Sb #3	0.17795	0.03559	ug/l	9.40	100.00		370.02	346.68	313.35
137 Ba #3	2.678	0.5356	ug/l	1.80	1800.00		2103.53	2063.52	2033.51
202 Hg #3	-0.07425	-0.01485	ug/l	7.06	5.00		71.67	67.33	67.00
205 Tl #3	-0.0095	-0.0019	ug/l	30.81	20.00		126.67	143.34	116.67
208 Pb #3	3.542	0.7084	ug/l	1.20	1800.00		23811.14	24371.56	24071.26
232 Th #3	0.1787	0.03574	ug/l	4.23	#VALUE!		1363.44	1336.77	1436.78
238 U #3	0.00205	0.00041	ug/l	84.37	#VALUE!		36.67	26.67	50.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	408189.03	0.21	442436.88	92.3	60 - 125		407208.19	408536.66	408822.22
45 Sc #1	448002.13	14.73	456299.72	98.2	60 - 125		410661.53	409134.34	524210.47
45 Sc #3	700947.06	0.13	765061.25	91.6	60 - 125		700624.50	700225.38	701991.25
74 Ge #1	152204.23	10.68	153441.28	99.2	60 - 125		143479.75	142179.20	170953.72
74 Ge #2	43141.20	1.63	47804.94	90.2	60 - 125		43527.29	43568.54	42327.79
74 Ge #3	212482.73	0.30	224564.78	94.6	60 - 125		212219.31	212010.80	213218.06
89 Y #3	1240973.90	0.45	1302847.50	95.3	60 - 125		1245639.40	1234725.30	1242556.90
115 In #3	1271618.90	0.08	1366177.60	93.1	60 - 125		1270504.40	1272232.50	1272119.80
159 Tb #3	1747684.50	0.57	2052817.90	85.1	60 - 125		1738955.60	1745611.40	1758486.60
209 Bi #3	1079212.00	0.21	1405468.50	76.8	60 - 125		1078786.10	1077146.00	1081703.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\190SMPL.D\190SMPL.D#
 Date Acquired: Aug 27 2014 03:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-75-aPDS
 Misc Info: DW
 Vial Number: 2106
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	18.94	18.94	ug/l	2.29	100.00		34440.67	33802.99	33679.40
11 B # 3	49.48	49.48	ug/l	2.45	1800.00		72833.05	72019.55	71250.27
23 Na # 1	10310	10310	ug/l	0.40	81000.00		33162140.00	33261872.00	33111240.00
24 Mg # 1	6147	6147	ug/l	0.15	81000.00		13753152.00	13878918.00	13872582.00
27 Al # 1	212.3	212.3	ug/l	0.81	81000.00		570033.94	571325.19	564895.06
39 K # 2	3198	3198	ug/l	0.71	81000.00		1036588.30	1031672.30	1040788.30
40 Ca # 1	18560	18560	ug/l	0.49	81000.00		114891620.00	114477970.00	114979060.00
47 Ti # 3	19.41	19.41	ug/l	1.26	1620.00		22080.15	21843.18	21769.83
51 V # 2	23.61	23.61	ug/l	1.31	1800.00		58817.33	59791.40	58572.13
52 Cr # 2	18.6	18.6	ug/l	0.72	1800.00		55839.57	57026.57	56590.61
55 Mn # 3	206.3	206.3	ug/l	0.70	1800.00		3836577.00	3800674.00	3902582.50
56 Fe # 1	2068	2068	ug/l	0.37	81000.00		16574165.00	16706893.00	16801226.00
59 Co # 3	19	19	ug/l	0.77	1800.00		267972.09	266528.25	269949.44
60 Ni # 2	24.32	24.32	ug/l	0.87	1800.00		27350.23	27175.50	27323.48
63 Cu # 2	42.02	42.02	ug/l	0.74	1800.00		128772.45	130380.10	129171.73
66 Zn # 3	1618	1618	ug/l	0.16	1800.00		3287061.30	3309266.50	3358338.80
75 As # 2	19.85	19.85	ug/l	1.27	100.00		6496.83	6573.86	6454.15
78 Se # 1	19.81	19.81	ug/l	1.55	100.00		4778.97	4921.34	4918.34
88 Sr # 3	59.57	59.57	ug/l	1.08	1800.00		1469985.00	1470430.60	1483367.60
95 Mo # 3	20.11	20.11	ug/l	0.60	1800.00		76086.02	76106.05	76558.24
107 Ag # 3	18.35	18.35	ug/l	1.11	100.00		195550.05	193188.88	194532.20
111 Cd # 3	20.38	20.38	ug/l	1.04	100.00		46933.77	46438.96	46529.09
118 Sn # 3	18.87	18.87	ug/l	1.35	1800.00		137164.77	134990.38	136875.89
121 Sb # 3	18.74	18.74	ug/l	0.42	100.00		161489.69	161755.42	161354.53
137 Ba # 3	21.5	21.5	ug/l	1.16	1800.00		81444.78	81508.24	82979.31
202 Hg # 3	0.9056	0.9056	ug/l	1.71	5.00		2675.56	2714.24	2761.91
205 Tl # 3	3.497	3.497	ug/l	1.18	20.00		84457.92	85543.82	85845.45
208 Pb # 3	21.14	21.14	ug/l	0.86	1800.00		698134.69	696849.38	710634.75
232 Th # 3	19.71	19.71	ug/l	2.76	#VALUE!		641431.13	645395.44	654352.94
238 U # 3	18.53	18.53	ug/l	3.28	#VALUE!		636211.69	625772.25	638271.81

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	414824.28	1.40	442436.88	93.8	60 - 125		411852.50	411109.41	421510.94
45 Sc # 1	417182.72	0.36	456299.72	91.4	60 - 125		415436.16	417999.91	418112.13
45 Sc # 3	762792.44	0.92	765061.25	99.7	60 - 125		763510.06	755481.13	769386.13
74 Ge # 1	141246.02	0.16	153441.28	92.1	60 - 125		141029.86	141490.67	141217.50
74 Ge # 2	43049.89	0.70	47804.94	90.1	60 - 125		42724.38	43106.30	43318.98
74 Ge # 3	217464.61	1.19	224564.78	96.8	60 - 125		215510.56	216482.78	220400.47
89 Y # 3	1274180.80	1.31	1302847.50	97.8	60 - 125		1254977.80	1281973.50	1285590.90
115 In # 3	1278685.40	0.50	1366177.60	93.6	60 - 125		1272414.10	1285106.10	1278535.90
159 Tb # 3	1797686.00	0.61	2052817.90	87.6	60 - 125		1803516.90	1784960.60	1804580.40
209 Bi # 3	1098588.30	3.81	1405468.50	78.2	60 - 125		1071246.50	1077758.80	1146759.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\191SMPL.D\191SMPL.D#
 Date Acquired: Aug 27 2014 03:53 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-75-b ms
 Misc Info: DW
 Vial Number: 2107
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	20.9	20.9	ug/l	0.76	100.00		38428.00	38424.77	38351.32
11 B #3	93.18	93.18	ug/l	0.26	1800.00		136241.83	136293.08	138074.53
23 Na #1	10410	10410	ug/l	0.53	81000.00		33904400.00	34087688.00	34318704.00
24 Mg #1	6266	6266	ug/l	0.37	81000.00		14364641.00	14326535.00	14409240.00
27 Al #1	2111	2111	ug/l	0.52	81000.00		5743468.50	5723220.00	5775535.00
39 K #2	3386	3386	ug/l	0.34	81000.00		1105285.00	1122113.10	1135713.10
40 Ca #1	18690	18690	ug/l	0.26	81000.00		117647320.00	117569690.00	118006800.00
47 Ti #3	40.8	40.8	ug/l	0.94	1620.00		46564.88	46645.20	47236.75
51 V #2	45.75	45.75	ug/l	1.00	1800.00		115869.13	117059.80	117349.05
52 Cr #2	40.63	40.63	ug/l	0.46	1800.00		124400.91	125542.14	127156.12
55 Mn #3	222.2	222.2	ug/l	0.92	1800.00		4228608.00	4258512.00	4201518.50
56 Fe #1	2250	2250	ug/l	0.27	81000.00		18456854.00	18482150.00	18559144.00
59 Co #3	21.24	21.24	ug/l	0.58	1800.00		303738.56	309017.25	305818.47
60 Ni #2	46.41	46.41	ug/l	0.39	1800.00		52639.91	52973.08	53887.89
63 Cu #2	63.39	63.39	ug/l	0.78	1800.00		197910.05	199196.38	200979.70
66 Zn #3	1629	1629	ug/l	0.42	1800.00		3380370.80	3438747.80	3417705.30
75 As #2	44.03	44.03	ug/l	0.93	100.00		14625.18	14766.29	14826.34
78 Se #1	43.8	43.8	ug/l	0.12	100.00		10945.96	10942.30	10999.99
88 Sr #3	80.47	80.47	ug/l	1.13	1800.00		2022105.10	2043926.00	2034863.30
95 Mo #3	42.98	42.98	ug/l	0.42	1800.00		165818.16	167251.20	166723.44
107 Ag #3	0.007617	0.007617	ug/l	45.33	100.00		186.67	176.67	246.68
111 Cd #3	22.16	22.16	ug/l	0.89	100.00		51640.54	51429.47	52496.37
118 Sn #3	83.74	83.74	ug/l	0.37	1800.00		612848.44	617693.44	618700.56
121 Sb #3	20.84	20.84	ug/l	1.08	100.00		181615.44	183441.88	186311.84
137 Ba #3	42.87	42.87	ug/l	0.45	1800.00		166089.48	167696.72	167728.36
202 Hg #3	1.861	1.861	ug/l	0.51	5.00		5580.34	5520.63	5506.97
205 Tl #3	15.24	15.24	ug/l	0.63	20.00		374746.59	375628.69	377349.69
208 Pb #3	22.79	22.79	ug/l	0.90	1800.00		762601.06	769544.75	767207.56
232 Th #3	21.87	21.87	ug/l	0.34	#VALUE!		701322.25	709859.38	707508.44
238 U #3	21.17	21.17	ug/l	0.35	#VALUE!		711171.19	710774.00	713117.06

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	424725.88	0.65	442436.88	96.0	60 - 125		424016.09	422389.88	427771.66
45 Sc #1	424990.03	0.16	456299.72	93.1	60 - 125		424244.50	425612.13	425113.41
45 Sc #3	777880.69	0.64	765061.25	101.7	60 - 125		772805.50	782748.44	778088.19
74 Ge #1	144048.17	0.36	153441.28	93.9	60 - 125		143633.66	143875.98	144634.88
74 Ge #2	43998.06	1.56	47804.94	92.0	60 - 125		43370.25	43895.96	44727.96
74 Ge #3	222064.50	0.59	224564.78	98.9	60 - 125		220547.59	222709.30	222936.64
89 Y #3	1300704.10	1.04	1302847.50	99.8	60 - 125		1292970.50	1292749.60	1316392.40
115 In #3	1308032.30	0.22	1366177.60	95.7	60 - 125		1305914.00	1306895.30	1311287.80
159 Tb #3	1820790.60	0.44	2052817.90	88.7	60 - 125		1828414.10	1812371.90	1821585.80
209 Bi #3	1079835.30	0.29	1405468.50	76.8	60 - 125		1076536.60	1082808.40	1080160.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\192SMPL.D\192SMPL.D#
 Date Acquired: Aug 27 2014 04:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-75-c msd
 Misc Info: DW
 Vial Number: 2108
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	21.29	21.29	ug/l	0.56	100.00		39226.35	39025.99	38985.64
11 B #3	94.08	94.08	ug/l	1.12	1800.00		138460.89	138980.70	136607.14
23 Na #1	10390	10390	ug/l	0.58	81000.00		34372456.00	34353504.00	34387828.00
24 Mg #1	6257	6257	ug/l	0.41	81000.00		14416673.00	14463090.00	14566430.00
27 Al #1	2114	2114	ug/l	0.25	81000.00		5792584.00	5771670.50	5865323.00
39 K #2	3340	3340	ug/l	0.42	81000.00		1118761.50	1126257.30	1130792.10
40 Ca #1	18760	18760	ug/l	0.76	81000.00		118244420.00	119454820.00	120294660.00
47 Ti #3	40.46	40.46	ug/l	1.59	1620.00		45933.29	46661.88	47724.47
51 V #2	45.16	45.16	ug/l	0.80	1800.00		116882.05	117727.18	117199.32
52 Cr #2	40.18	40.18	ug/l	0.45	1800.00		126697.42	125686.04	127100.41
55 Mn #3	220.8	220.8	ug/l	0.84	1800.00		4228659.50	4222281.50	4239932.50
56 Fe #1	2261	2261	ug/l	0.48	81000.00		18668522.00	18754990.00	18872214.00
59 Co #3	21.2	21.2	ug/l	0.73	1800.00		305889.13	308194.81	308244.91
60 Ni #2	46.22	46.22	ug/l	0.37	1800.00		53853.38	53444.44	54323.63
63 Cu #2	62.6	62.6	ug/l	0.52	1800.00		199313.70	200679.55	200947.55
66 Zn #3	1615	1615	ug/l	0.55	1800.00		3392441.50	3416742.00	3407178.00
75 As #2	43.56	43.56	ug/l	0.24	100.00		14747.61	14814.67	14949.77
78 Se #1	44.35	44.35	ug/l	0.35	100.00		11157.75	11153.75	11273.83
88 Sr #3	80.69	80.69	ug/l	0.54	1800.00		2028346.30	2043682.30	2045578.80
95 Mo #3	43.07	43.07	ug/l	0.75	1800.00		165726.84	167790.08	165943.78
107 Ag #3	0.006655	0.006655	ug/l	80.75	100.00		243.34	203.34	130.00
111 Cd #3	22.24	22.24	ug/l	0.49	100.00		52038.52	51733.84	51924.73
118 Sn #3	83.81	83.81	ug/l	0.52	1800.00		610167.63	615219.19	620460.69
121 Sb #3	20.85	20.85	ug/l	0.16	100.00		183041.66	182942.39	184065.13
137 Ba #3	43	43	ug/l	0.41	1800.00		167149.97	166362.02	168138.59
202 Hg #3	1.849	1.849	ug/l	1.51	5.00		5464.28	5465.28	5624.34
205 Tl #3	15.18	15.18	ug/l	0.25	20.00		373512.69	377001.41	376266.97
208 Pb #3	22.65	22.65	ug/l	0.26	1800.00		763899.75	764353.44	764486.88
232 Th #3	22.05	22.05	ug/l	0.57	#VALUE!		709106.56	711052.25	715582.06
238 U #3	21.14	21.14	ug/l	0.52	#VALUE!		709012.31	710061.25	713226.94

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	424269.38	0.24	442436.88	95.9	60 - 125		423277.06	424197.72	425333.31
45 Sc #1	428999.03	0.63	456299.72	94.0	60 - 125		428588.72	426516.84	431891.50
45 Sc #3	783714.50	0.42	765061.25	102.4	60 - 125		779923.44	785436.25	785783.81
74 Ge #1	145285.08	0.86	153441.28	94.7	60 - 125		145050.56	144169.61	146635.05
74 Ge #2	44766.23	0.65	47804.94	93.6	60 - 125		44606.53	44590.98	45101.16
74 Ge #3	223470.02	0.63	224564.78	99.5	60 - 125		223255.67	224981.66	222172.73
89 Y #3	1300752.40	0.08	1302847.50	99.8	60 - 125		1301844.60	1300738.10	1299674.10
115 In #3	1304532.80	0.31	1366177.60	95.5	60 - 125		1300716.10	1303999.30	1308882.90
159 Tb #3	1827195.00	0.30	2052817.90	89.0	60 - 125		1820992.50	1829165.40	1831426.90
209 Bi #3	1079915.30	0.49	1405468.50	76.8	60 - 125		1074693.40	1085251.50	1079801.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\193SMPL.D\193SMPL.D#
 Date Acquired: Aug 27 2014 04:07 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-30-a
 Misc Info: DW
 Vial Number: 2109
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0025	0.0025	ug/l	85.88	100.00		3.33	10.00	3.33
11 B # 3	15.55	15.55	ug/l	1.15	1800.00		24105.34	24405.75	24696.01
23 Na # 1	7708	7708	ug/l	6.38	81000.00		24423100.00	24125970.00	24599846.00
24 Mg # 1	4513	4513	ug/l	6.16	81000.00		9977206.00	9999265.00	9964105.00
27 Al # 1	25.89	25.89	ug/l	5.78	81000.00		69061.44	69499.23	69823.65
39 K # 2	1167	1167	ug/l	0.96	81000.00		390615.97	391104.53	397428.13
40 Ca # 1	17200	17200	ug/l	6.48	81000.00		104798410.00	104439890.00	104144100.00
47 Ti # 3	0.6482	0.6482	ug/l	3.60	1620.00		820.04	873.38	840.04
51 V # 2	8.803	8.803	ug/l	0.60	1800.00		22522.50	22397.89	22758.33
52 Cr # 2	0.1121	0.1121	ug/l	2.69	1800.00		667.80	662.24	651.13
55 Mn # 3	1.775	1.775	ug/l	1.11	1800.00		34265.54	35110.28	35314.34
56 Fe # 1	24.84	24.84	ug/l	6.37	81000.00		201097.58	199940.19	201822.70
59 Co # 3	0.04497	0.04497	ug/l	6.83	1800.00		733.37	733.37	663.36
60 Ni # 2	1.075	1.075	ug/l	2.92	1800.00		1311.17	1228.94	1283.39
63 Cu # 2	34.81	34.81	ug/l	0.37	1800.00		109342.38	109088.95	109298.88
66 Zn # 3	21.29	21.29	ug/l	0.52	1800.00		44778.51	44654.89	44885.38
75 As # 2	0.1744	0.1744	ug/l	11.24	100.00		70.00	79.33	67.67
78 Se # 1	0.1463	0.1463	ug/l	7.39	100.00		56.00	56.00	53.67
88 Sr # 3	40.24	40.24	ug/l	0.74	1800.00		1001555.80	1019441.30	1016957.50
95 Mo # 3	0.5829	0.5829	ug/l	2.92	1800.00		2393.56	2370.23	2276.89
107 Ag # 3	0.007194	0.007194	ug/l	19.24	100.00		193.34	213.34	183.34
111 Cd # 3	0.09351	0.09351	ug/l	5.02	100.00		232.82	212.82	222.84
118 Sn # 3	0.1013	0.1013	ug/l	1.40	1800.00		1410.10	1440.11	1433.44
121 Sb # 3	0.1431	0.1431	ug/l	2.70	100.00		1286.76	1256.75	1320.09
137 Ba # 3	2.378	2.378	ug/l	2.15	1800.00		9389.58	9075.97	9166.06
202 Hg # 3	0.0005668	0.0005668	ug/l	1091.00	5.00		132.34	97.67	116.67
205 Tl # 3	0.02241	0.02241	ug/l	3.74	20.00		736.71	733.37	713.37
208 Pb # 3	1.34	1.34	ug/l	0.75	1800.00		45844.09	45794.31	46174.37
232 Th # 3	0.1771	0.1771	ug/l	6.77	#VALUE!		6034.69	6458.23	5941.31
238 U # 3	0.00582	0.00582	ug/l	18.71	#VALUE!		263.34	210.01	206.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	418119.13	0.52	442436.88	94.5	60 - 125		418041.75	416002.56	420313.06
45 Sc # 1	410848.91	5.97	456299.72	90.0	60 - 125		382570.66	423774.88	426201.19
45 Sc # 3	767439.13	0.90	765061.25	100.3	60 - 125		761234.13	766230.69	774852.56
74 Ge # 1	142020.41	3.19	153441.28	92.6	60 - 125		136812.42	145081.94	144166.88
74 Ge # 2	43826.52	0.49	47804.94	91.7	60 - 125		43977.28	43578.43	43923.84
74 Ge # 3	219884.61	0.57	224564.78	97.9	60 - 125		218603.91	219932.91	221117.00
89 Y # 3	1295027.00	0.65	1302847.50	99.4	60 - 125		1287983.50	1292787.00	1304310.40
115 In # 3	1294508.50	0.39	1366177.60	94.8	60 - 125		1289096.30	1299176.50	1295252.60
159 Tb # 3	1807231.00	1.11	2052817.90	88.0	60 - 125		1789629.50	1803058.80	1829004.50
209 Bi # 3	1117696.90	3.29	1405468.50	79.5	60 - 125		1088245.90	1105929.60	1158914.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\194_CCV.D\194_CCV.D#
 Date Acquired: Aug 27 2014 04:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.08 ug/l	0.51	50.00	89.5 - 110		85334.84	84849.38	85579.44
11 B	94.83 ug/l	0.26	100.00	89.5 - 110		133644.33	134828.08	134738.00
23 Na	5206 ug/l	0.35	5000.00	89.5 - 110		16362905.00	16376836.00	16287475.00
24 Mg	5121 ug/l	1.18	5000.00	89.5 - 110		11356005.00	11199141.00	11094060.00
27 Al	533.1 ug/l	0.80	500.00	89.5 - 110		1400433.30	1378827.80	1382587.90
39 K	5163 ug/l	1.43	5000.00	89.5 - 110		1637065.90	1626466.00	1617857.60
40 Ca	5328 ug/l	0.41	5000.00	89.5 - 110		31939206.00	32144860.00	32155952.00
47 Ti	51.26 ug/l	1.66	50.00	89.5 - 110		54248.82	54713.72	54960.82
51 V	50.55 ug/l	1.39	50.00	89.5 - 110		123702.83	122613.31	123547.25
52 Cr	49.76 ug/l	1.57	50.00	89.5 - 110		147270.20	146396.88	147577.36
55 Mn	515.7 ug/l	0.22	500.00	89.5 - 110		9293705.00	9312767.00	9498827.00
56 Fe	5403 ug/l	0.29	5000.00	89.5 - 110		42371436.00	42334440.00	42593608.00
59 Co	51.09 ug/l	0.55	50.00	89.5 - 110		698500.94	700605.69	708870.38
60 Ni	50.81 ug/l	0.92	50.00	89.5 - 110		56106.66	55107.04	55655.28
63 Cu	49.53 ug/l	1.16	50.00	89.5 - 110		149891.19	148006.72	148989.20
66 Zn	45.52 ug/l	1.23	50.00	89.5 - 110		91436.80	91651.49	91678.31
75 As	49.54 ug/l	1.53	50.00	89.5 - 110		15957.97	15874.88	15716.43
78 Se	46.73 ug/l	0.67	50.00	89.5 - 110		11307.52	11355.21	11187.11
88 Sr	49.67 ug/l	0.55	50.00	89.5 - 110		1200066.60	1200251.50	1218283.00
95 Mo	50.98 ug/l	1.13	50.00	89.5 - 110		192454.81	192964.02	193204.02
107 Ag	48.66 ug/l	0.84	50.00	89.5 - 110		511398.63	515081.41	517162.13
111 Cd	47.1 ug/l	0.85	50.00	89.5 - 110		107141.47	107530.92	108129.89
118 Sn	48.73 ug/l	0.97	50.00	89.5 - 110		348375.94	351287.59	351756.63
121 Sb	46.74 ug/l	0.76	50.00	89.5 - 110		400191.59	402204.41	404745.84
137 Ba	48.67 ug/l	0.43	50.00	89.5 - 110		184318.47	184260.97	187222.25
202 Hg	2.393 ug/l	1.34	2.50	89.5 - 110		6753.77	6933.52	6960.54
205 Tl	9.291 ug/l	0.46	10.00	89.5 - 110		220837.39	222082.05	225240.56
208 Pb	46.3 ug/l	0.54	50.00	89.5 - 110		1496681.30	1513932.10	1524179.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	409935.41	0.41	442436.88	92.7	60 - 125		408204.25	410031.69	411570.31
45 Sc	405972.00	0.07	456299.72	89.0	60 - 125		406109.31	405640.22	406166.47
45 Sc	723172.56	2.23	765061.25	94.5	60 - 125		710860.00	717251.56	741406.00
74 Ge	138989.33	0.17	153441.28	90.6	60 - 125		139226.97	138977.55	138763.47
74 Ge	42055.04	1.77	47804.94	88.0	60 - 125		42870.22	41406.86	41888.02
74 Ge	211944.28	1.33	224564.78	94.4	60 - 125		209712.39	211003.31	215117.11
89 Y	1249837.40	0.58	1302847.50	95.9	60 - 125		1242018.40	1251154.40	1256339.40
115 In	1277067.10	1.30	1366177.60	93.5	60 - 125		1264806.40	1270491.80	1295903.40
159 Tb	1769336.90	0.58	2052817.90	86.2	60 - 125		1762437.60	1764475.80	1781097.30
209 Bi	1058813.30	1.00	1405468.50	75.3	60 - 125		1046825.10	1062623.90	1066990.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\195_CCB.D\195_CCB.D#
 Date Acquired: Aug 27 2014 04:22 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.006372	0.006372	ug/l	17.77	#VALUE!		13.33	13.33	10.00
11 B #3	2.14	2.14	ug/l	1.46	#VALUE!		5197.48	5210.85	5184.17
23 Na #1	-10.78	-10.78	ug/l	2.02	#VALUE!		52401.65	51936.99	51539.48
24 Mg #1	0.457	0.457	ug/l	12.23	#VALUE!		2073.51	1923.48	1853.47
27 Al #1	0.4388	0.4388	ug/l	6.08	#VALUE!		2653.59	2556.91	2546.90
39 K #2	-10.48	-10.48	ug/l	3.34	#VALUE!		8708.92	8785.63	8712.21
40 Ca #1	2.262	2.262	ug/l	1.30	#VALUE!		36141.63	36522.59	36535.90
47 Ti #3	-0.06472	-0.06472	ug/l	5.10	#VALUE!		33.33	40.00	36.67
51 V #2	0.002108	0.002108	ug/l	263.00	#VALUE!		210.00	215.56	237.78
52 Cr #2	-0.009994	-0.009994	ug/l	33.02	#VALUE!		267.78	284.45	277.78
55 Mn #3	0.06552	0.06552	ug/l	9.70	#VALUE!		2680.28	2500.26	2660.26
56 Fe #1	1.218	1.218	ug/l	3.26	#VALUE!		13622.03	13311.81	13128.32
59 Co #3	0.002564	0.002564	ug/l	11.53	#VALUE!		96.67	106.67	103.34
60 Ni #2	0.04535	0.04535	ug/l	17.39	#VALUE!		87.78	97.78	105.56
63 Cu #2	-0.05512	-0.05512	ug/l	6.59	#VALUE!		236.67	225.56	251.12
66 Zn #3	0.08	0.08	ug/l	33.35	#VALUE!		703.37	790.04	823.37
75 As #2	0.009418	0.009418	ug/l	99.81	#VALUE!		20.33	14.33	16.00
78 Se #1	-0.03669	-0.03669	ug/l	12.69	#VALUE!		8.67	10.67	10.67
88 Sr #3	0.006462	0.006462	ug/l	7.83	#VALUE!		323.35	310.01	303.34
95 Mo #3	0.03182	0.03182	ug/l	31.99	#VALUE!		270.01	226.67	196.67
107 Ag #3	-0.0003231	-0.0003231	ug/l	175.43	#VALUE!		110.00	120.00	113.34
111 Cd #3	0.004039	0.004039	ug/l	101.63	#VALUE!		9.94	9.95	26.62
118 Sn #3	0.001256	0.001256	ug/l	342.12	#VALUE!		720.04	680.03	670.03
121 Sb #3	0.0219	0.0219	ug/l	15.22	#VALUE!		240.01	243.34	196.67
137 Ba #3	0.006072	0.006072	ug/l	41.27	#VALUE!		63.34	66.67	50.00
202 Hg #3	0.01718	0.01718	ug/l	35.91	#VALUE!		170.67	169.34	141.33
205 Tl #3	0.0007083	0.0007083	ug/l	158.41	#VALUE!		213.34	163.34	203.34
208 Pb #3	-0.02008	-0.02008	ug/l	1.96	#VALUE!		600.02	630.03	626.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	406811.13	0.63	442436.88	91.9	60 - 125		404792.50	405949.69	409691.19
45 Sc #1	399279.34	0.48	456299.72	87.5	60 - 125		397885.84	398469.63	401482.59
45 Sc #3	712516.94	1.99	765061.25	93.1	60 - 125		704489.88	704142.19	728918.75
74 Ge #1	139117.30	0.38	153441.28	90.7	60 - 125		138572.98	139147.75	139631.14
74 Ge #2	42560.97	0.79	47804.94	89.0	60 - 125		42641.94	42193.07	42847.88
74 Ge #3	213737.59	1.11	224564.78	95.2	60 - 125		210999.94	214894.73	215318.09
89 Y #3	1257667.00	0.89	1302847.50	96.5	60 - 125		1246085.00	1268378.90	1258537.10
115 In #3	1276605.50	1.29	1366177.60	93.4	60 - 125		1272755.00	1262429.80	1294631.80
159 Tb #3	1772825.10	0.72	2052817.90	86.4	60 - 125		1759465.80	1774122.50	1784887.00
209 Bi #3	1096840.80	1.87	1405468.50	78.0	60 - 125		1079881.10	1091035.40	1119605.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures 0 : Max. Number of Failures Allowed
 0 : ISTD Failures 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\196SMPL.D\196SMPL.D#
 Date Acquired: Aug 27 2014 04:30 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-30-b ms
 Misc Info: DW
 Vial Number: 2110
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	20.78	20.78	ug/l	0.90	100.00		37616.55	37052.07	36855.10
11 B # 3	92.06	92.06	ug/l	0.31	1800.00		131912.19	131412.91	131794.42
23 Na # 1	9259	9259	ug/l	0.43	81000.00		30090160.00	30103876.00	29960612.00
24 Mg # 1	6229	6229	ug/l	0.62	81000.00		14212361.00	14106628.00	14098868.00
27 Al # 1	2072	2072	ug/l	0.74	81000.00		5617783.50	5548111.50	5582458.50
39 K # 2	3253	3253	ug/l	1.46	81000.00		1052338.80	1076630.90	1076976.80
40 Ca # 1	18150	18150	ug/l	0.39	81000.00		112904120.00	112802780.00	113876640.00
47 Ti # 3	40.02	40.02	ug/l	0.80	1620.00		45622.85	45158.10	45392.03
51 V # 2	48.93	48.93	ug/l	0.81	1800.00		123414.25	123840.36	124321.59
52 Cr # 2	40.13	40.13	ug/l	1.32	1800.00		122182.16	123961.79	123376.85
55 Mn # 3	210.3	210.3	ug/l	0.73	1800.00		3948212.00	3894512.50	3938126.30
56 Fe # 1	2162	2162	ug/l	0.51	81000.00		17470054.00	17681224.00	17651590.00
59 Co # 3	20.95	20.95	ug/l	0.23	1800.00		297073.03	296158.63	294929.53
60 Ni # 2	41.73	41.73	ug/l	1.30	1800.00		47087.34	47703.29	47470.56
63 Cu # 2	73.02	73.02	ug/l	1.13	1800.00		226179.77	228698.19	228386.20
66 Zn # 3	60.27	60.27	ug/l	0.93	1800.00		125727.03	124394.80	123089.61
75 As # 2	43.32	43.32	ug/l	0.78	100.00		14213.53	14347.63	14603.49
78 Se # 1	43.57	43.57	ug/l	0.63	100.00		10812.55	10739.17	10789.88
88 Sr # 3	78.43	78.43	ug/l	0.29	1800.00		1947391.00	1965455.00	1962841.00
95 Mo # 3	42.11	42.11	ug/l	1.37	1800.00		161162.92	160479.48	162175.58
107 Ag # 3	0.01375	0.01375	ug/l	24.98	100.00		293.34	283.35	223.34
111 Cd # 3	20.23	20.23	ug/l	1.13	100.00		46878.00	46557.30	46901.38
118 Sn # 3	82.52	82.52	ug/l	1.32	1800.00		602473.94	601920.00	596182.94
121 Sb # 3	20.56	20.56	ug/l	1.18	100.00		180574.23	179503.91	177366.69
137 Ba # 3	42.07	42.07	ug/l	0.82	1800.00		163090.48	161343.94	161887.55
202 Hg # 3	1.836	1.836	ug/l	0.49	5.00		5432.61	5405.94	5444.96
205 Tl # 3	15.01	15.01	ug/l	0.66	20.00		369765.19	366375.41	366954.09
208 Pb # 3	20.33	20.33	ug/l	0.86	1800.00		680212.00	673675.13	683981.75
232 Th # 3	21.39	21.39	ug/l	0.35	#VALUE!		693445.69	688686.38	692503.56
238 U # 3	20.76	20.76	ug/l	0.89	#VALUE!		697504.38	700365.31	698271.69

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	413582.09	0.51	442436.88	93.5	60 - 125		415322.06	411264.00	414160.25
45 Sc # 1	420724.75	0.19	456299.72	92.2	60 - 125		419924.34	420745.19	421504.63
45 Sc # 3	768985.00	1.13	765061.25	100.5	60 - 125		772486.63	759116.00	775352.25
74 Ge # 1	142422.80	0.68	153441.28	92.8	60 - 125		142051.91	141690.06	143526.44
74 Ge # 2	43646.09	1.05	47804.94	91.3	60 - 125		43503.97	43277.75	44156.56
74 Ge # 3	217758.44	0.13	224564.78	97.0	60 - 125		218034.03	217781.53	217459.73
89 Y # 3	1285206.30	0.28	1302847.50	98.6	60 - 125		1281840.30	1289079.50	1284699.30
115 In # 3	1292635.80	1.38	1366177.60	94.6	60 - 125		1312334.00	1277659.80	1287913.50
159 Tb # 3	1809148.90	0.16	2052817.90	88.1	60 - 125		1805910.10	1811778.30	1809758.80
209 Bi # 3	1081166.00	0.68	1405468.50	76.9	60 - 125		1088450.80	1073756.60	1081290.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\197SMPL.D\197SMPL.D#
 Date Acquired: Aug 27 2014 04:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-30-c msd
 Misc Info: DW
 Vial Number: 2111
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	21.05	21.05	ug/l	0.05	100.00		37689.99	38267.77	38568.41
11 B # 3	95.05	95.05	ug/l	0.17	1800.00		136194.61	138090.13	138910.33
23 Na # 1	9332	9332	ug/l	0.58	81000.00		30277016.00	31015556.00	31106250.00
24 Mg # 1	6273	6273	ug/l	0.29	81000.00		14283516.00	14536225.00	14617690.00
27 Al # 1	2082	2082	ug/l	0.23	81000.00		5657834.50	5709819.00	5743553.50
39 K # 2	3265	3265	ug/l	2.06	81000.00		1061510.40	1098218.30	1108072.80
40 Ca # 1	18340	18340	ug/l	0.72	81000.00		114665280.00	116197780.00	118115800.00
47 Ti # 3	40.05	40.05	ug/l	1.25	1620.00		46301.07	46087.22	47139.63
51 V # 2	49.36	49.36	ug/l	0.42	1800.00		126119.71	126592.05	128040.18
52 Cr # 2	40.13	40.13	ug/l	0.67	1800.00		124039.86	125632.67	125582.62
55 Mn # 3	210	210	ug/l	1.10	1800.00		3999651.30	3979996.50	4035194.00
56 Fe # 1	2164	2164	ug/l	0.38	81000.00		17730224.00	17905498.00	18108830.00
59 Co # 3	21.01	21.01	ug/l	0.78	1800.00		301906.88	302615.16	305729.97
60 Ni # 2	41.89	41.89	ug/l	0.66	1800.00		47886.15	48450.77	48704.79
63 Cu # 2	73.6	73.6	ug/l	0.38	1800.00		231669.19	233172.09	234637.73
66 Zn # 3	60.64	60.64	ug/l	0.39	1800.00		127220.20	128220.01	128113.79
75 As # 2	43.88	43.88	ug/l	1.13	100.00		14587.49	14909.08	14901.74
78 Se # 1	43.95	43.95	ug/l	0.56	100.00		11051.03	10979.66	11089.05
88 Sr # 3	79.15	79.15	ug/l	1.01	1800.00		1986298.80	2002995.60	2000176.60
95 Mo # 3	43.05	43.05	ug/l	0.97	1800.00		164381.20	164493.72	166749.94
107 Ag # 3	0.008741	0.008741	ug/l	9.80	100.00		210.01	206.67	223.34
111 Cd # 3	20.81	20.81	ug/l	0.92	100.00		47706.50	48270.85	48678.81
118 Sn # 3	83.99	83.99	ug/l	0.23	1800.00		610681.88	615925.88	610065.13
121 Sb # 3	20.88	20.88	ug/l	0.81	100.00		180687.38	182478.06	183883.30
137 Ba # 3	42.63	42.63	ug/l	0.50	1800.00		164057.14	164531.56	165265.00
202 Hg # 3	1.882	1.882	ug/l	0.23	5.00		5515.64	5593.34	5622.69
205 Tl # 3	15.19	15.19	ug/l	0.44	20.00		369876.66	373126.34	377019.63
208 Pb # 3	20.53	20.53	ug/l	0.72	1800.00		684195.50	687490.81	692145.44
232 Th # 3	20.99	20.99	ug/l	3.01	#VALUE!		704773.13	703585.63	704221.38
238 U # 3	20.19	20.19	ug/l	2.63	#VALUE!		707260.19	706298.31	701776.25

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	419143.41	1.15	442436.88	94.7	60 - 125		413996.84	419901.44	423531.88
45 Sc # 1	427812.59	0.92	456299.72	93.8	60 - 125		423368.28	429258.16	430811.31
45 Sc # 3	787289.25	0.48	765061.25	102.9	60 - 125		783050.38	790321.06	788496.31
74 Ge # 1	144599.30	0.64	153441.28	94.2	60 - 125		143822.13	144352.03	145623.75
74 Ge # 2	44326.96	0.41	47804.94	92.7	60 - 125		44235.64	44211.12	44534.13
74 Ge # 3	222454.22	0.81	224564.78	99.1	60 - 125		220423.17	223881.66	223057.83
89 Y # 3	1298397.80	0.95	1302847.50	99.7	60 - 125		1294611.30	1288359.80	1312222.30
115 In # 3	1295236.50	0.42	1366177.60	94.8	60 - 125		1290416.80	1301231.30	1294061.90
159 Tb # 3	1814513.10	1.22	2052817.90	88.4	60 - 125		1789764.50	1821582.30	1832192.90
209 Bi # 3	1122556.90	2.96	1405468.50	79.9	60 - 125		1125761.00	1154019.80	1087889.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\198SMPL.D\198SMPL.D#
 Date Acquired: Aug 27 2014 04:44 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-42-a
 Misc Info: DW
 Vial Number: 2112
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003766	0.003766	ug/l	28.86	100.00		10.00	6.67	6.67
11 B #3	15.96	15.96	ug/l	0.82	1800.00		24866.32	24742.74	24625.95
23 Na #1	7384	7384	ug/l	0.76	81000.00		24449072.00	24771532.00	24379728.00
24 Mg #1	4302	4302	ug/l	0.34	81000.00		9963667.00	10037688.00	9966335.00
27 Al #1	21.38	21.38	ug/l	0.12	81000.00		60284.98	60703.21	60519.00
39 K #2	1171	1171	ug/l	1.06	81000.00		395405.25	402045.97	398168.28
40 Ca #1	16430	16430	ug/l	0.35	81000.00		104243390.00	105520330.00	104745260.00
47 Ti #3	0.6573	0.6573	ug/l	10.67	1620.00		916.71	883.38	780.04
51 V #2	7.51	7.51	ug/l	1.07	1800.00		19322.29	19635.94	19518.02
52 Cr #2	0.1102	0.1102	ug/l	8.11	1800.00		653.35	693.35	638.91
55 Mn #3	4.08	4.08	ug/l	0.17	1800.00		77966.88	77759.16	78780.06
56 Fe #1	59.89	59.89	ug/l	0.20	81000.00		499634.88	504658.53	504453.69
59 Co #3	0.8401	0.8401	ug/l	1.90	1800.00		11770.75	12014.16	12307.80
60 Ni #2	42.95	42.95	ug/l	0.51	1800.00		49689.65	49330.95	49670.72
63 Cu #2	19.76	19.76	ug/l	0.99	1800.00		62425.00	63423.72	62793.75
66 Zn #3	103.5	103.5	ug/l	0.12	1800.00		214164.97	213848.61	216232.36
75 As #2	0.1871	0.1871	ug/l	2.78	100.00		79.67	76.00	76.67
78 Se #1	0.1385	0.1385	ug/l	22.14	100.00		56.00	62.33	46.33
88 Sr #3	40.14	40.14	ug/l	1.96	1800.00		1002857.70	989465.31	1020347.20
95 Mo #3	0.5638	0.5638	ug/l	0.98	1800.00		2256.87	2290.22	2270.21
107 Ag #3	0.00399	0.00399	ug/l	19.96	100.00		163.34	170.01	153.34
111 Cd #3	0.1622	0.1622	ug/l	7.95	100.00		366.19	362.84	416.19
118 Sn #3	0.1903	0.1903	ug/l	3.83	1800.00		2130.19	2073.53	2020.18
121 Sb #3	0.1968	0.1968	ug/l	4.08	100.00		1783.47	1806.82	1676.80
137 Ba #3	2.49	2.49	ug/l	2.93	1800.00		9526.25	9943.17	9449.55
202 Hg #3	5.542E-005	5.542E-005	ug/l	8509.60	5.00		130.00	103.00	110.67
205 Tl #3	0.02375	0.02375	ug/l	12.35	20.00		793.38	813.38	683.37
208 Pb #3	21.99	21.99	ug/l	0.41	1800.00		735347.69	732506.56	742046.88
232 Th #3	0.1867	0.1867	ug/l	7.96	#VALUE!		6584.93	6634.98	5961.36
238 U #3	0.007778	0.007778	ug/l	3.71	#VALUE!		276.68	296.68	303.35

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	414036.97	0.26	442436.88	93.6	60 - 125		412839.72	414308.47	414962.69
45 Sc #1	430381.66	0.37	456299.72	94.3	60 - 125		428549.25	431493.59	431102.06
45 Sc #3	772636.94	1.66	765061.25	101.0	60 - 125		758267.81	782763.31	776879.81
74 Ge #1	146007.97	0.55	153441.28	95.2	60 - 125		146047.53	146791.11	145185.23
74 Ge #2	44313.70	0.34	47804.94	92.7	60 - 125		44466.20	44309.25	44165.65
74 Ge #3	219434.38	0.53	224564.78	97.7	60 - 125		219135.05	218448.48	220719.58
89 Y #3	1287583.40	0.46	1302847.50	98.8	60 - 125		1284883.90	1294431.80	1283434.80
115 In #3	1293840.60	0.20	1366177.60	94.7	60 - 125		1296383.80	1291270.90	1293867.30
159 Tb #3	1813765.80	0.36	2052817.90	88.4	60 - 125		1816334.10	1806331.60	1818631.90
209 Bi #3	1105137.90	1.94	1405468.50	78.6	60 - 125		1089005.60	1096956.40	1129451.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\199SMPL.D\199SMPL.D#
 Date Acquired: Aug 27 2014 04:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-53-a
 Misc Info: DW
 Vial Number: 2201
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babha.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002502	0.002502	ug/l	42.69	100.00		3.33	6.67	6.67
11 B #3	15.1	15.1	ug/l	0.81	1800.00		23768.17	23898.44	23441.15
23 Na #1	7353	7353	ug/l	0.84	81000.00		24114396.00	24350318.00	24121012.00
24 Mg #1	4358	4358	ug/l	0.24	81000.00		10022406.00	9984215.00	10056071.00
27 Al #1	5.147	5.147	ug/l	2.31	81000.00		15646.84	15216.40	15963.73
39 K #2	1148	1148	ug/l	1.56	81000.00		383571.25	389588.78	392389.69
40 Ca #1	16730	16730	ug/l	0.60	81000.00		106049530.00	105538560.00	105578130.00
47 Ti #3	0.6225	0.6225	ug/l	10.77	1620.00		860.04	723.37	860.04
51 V #2	2.903	2.903	ug/l	1.60	1800.00		7657.17	7553.80	7658.29
52 Cr #2	0.02788	0.02788	ug/l	62.23	1800.00		417.79	346.67	444.45
55 Mn #3	16.06	16.06	ug/l	0.71	1800.00		304437.78	301962.88	305104.06
56 Fe #1	215.8	215.8	ug/l	0.31	81000.00		1775058.30	1785853.10	1789876.60
59 Co #3	0.3186	0.3186	ug/l	3.76	1800.00		4397.31	4750.74	4684.07
60 Ni #2	12.39	12.39	ug/l	2.08	1800.00		13969.79	14286.70	14461.27
63 Cu #2	87.08	87.08	ug/l	1.05	1800.00		272044.22	274446.69	275249.06
66 Zn #3	102.4	102.4	ug/l	0.56	1800.00		212802.97	211856.61	213645.84
75 As #2	0.1666	0.1666	ug/l	14.25	100.00		70.00	78.67	61.67
78 Se #1	0.1473	0.1473	ug/l	13.25	100.00		61.00	51.33	57.67
88 Sr #3	42.15	42.15	ug/l	0.75	1800.00		1054004.50	1042597.30	1048891.60
95 Mo #3	0.5161	0.5161	ug/l	2.85	1800.00		2013.50	2176.87	2146.85
107 Ag #3	0.007086	0.007086	ug/l	44.26	100.00		156.67	226.67	210.01
111 Cd #3	0.05611	0.05611	ug/l	25.63	100.00		172.90	126.19	112.86
118 Sn #3	0.07938	0.07938	ug/l	13.81	1800.00		1230.08	1233.42	1380.10
121 Sb #3	0.3227	0.3227	ug/l	4.93	100.00		2886.99	3023.68	2740.30
137 Ba #3	2.116	2.116	ug/l	2.47	1800.00		8288.94	8138.86	8422.33
202 Hg #3	-0.00962	-0.00962	ug/l	27.85	5.00		95.33	81.67	84.00
205 Tl #3	0.00614	0.00614	ug/l	1.72	20.00		333.35	336.68	330.01
208 Pb #3	71.23	71.23	ug/l	0.99	1800.00		2394462.50	2388134.80	2412856.30
232 Th #3	0.06519	0.06519	ug/l	2.33	#VALUE!		2333.59	2430.28	2460.27
238 U #3	0.001809	0.001809	ug/l	13.44	#VALUE!		76.67	90.00	96.67

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	416953.69	0.27	442436.88	94.2	60 - 125		417060.50	418023.59	415776.94
45 Sc #1	426193.78	0.43	456299.72	93.4	60 - 125		425070.13	425213.72	428297.41
45 Sc #3	766312.44	1.11	765061.25	100.2	60 - 125		760887.69	761925.06	776124.44
74 Ge #1	144929.64	0.46	153441.28	94.5	60 - 125		144483.92	144601.52	145703.47
74 Ge #2	44032.23	0.79	47804.94	92.1	60 - 125		43970.56	44408.31	43717.80
74 Ge #3	219695.52	0.74	224564.78	97.8	60 - 125		218346.03	219228.14	221512.42
89 Y #3	1280233.10	0.27	1302847.50	98.3	60 - 125		1276410.40	1281030.60	1283258.40
115 In #3	1307534.60	1.44	1366177.60	95.7	60 - 125		1286139.60	1321664.30	1314800.00
159 Tb #3	1825516.30	0.65	2052817.90	88.9	60 - 125		1814798.30	1838273.30	1823477.30
209 Bi #3	1116136.30	2.78	1405468.50	79.4	60 - 125		1096847.80	1099683.50	1151877.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\200SMPL.D\200SMPL.D#
 Date Acquired: Aug 27 2014 04:59 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-48-a
 Misc Info: DW
 Vial Number: 2202
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001288	0.001288	ug/l	1.22	100.00		3.33	3.33	3.33
11 B # 3	14.79	14.79	ug/l	0.58	1800.00		22693.73	23094.01	23314.32
23 Na # 1	7281	7281	ug/l	0.59	81000.00		23871448.00	23818938.00	23683822.00
24 Mg # 1	4263	4263	ug/l	0.99	81000.00		9745859.00	9704079.00	9753542.00
27 Al # 1	23.04	23.04	ug/l	0.90	81000.00		63314.78	64578.73	64077.09
39 K # 2	1153	1153	ug/l	0.15	81000.00		386951.81	388796.72	393107.59
40 Ca # 1	16300	16300	ug/l	0.47	81000.00		102647520.00	102608200.00	101493570.00
47 Ti # 3	0.6601	0.6601	ug/l	7.18	1620.00		846.71	900.05	810.04
51 V # 2	9.637	9.637	ug/l	0.16	1800.00		24604.01	24686.36	24948.86
52 Cr # 2	0.1096	0.1096	ug/l	5.79	1800.00		656.68	630.02	676.68
55 Mn # 3	0.6154	0.6154	ug/l	2.79	1800.00		12614.58	13191.67	13325.06
56 Fe # 1	16.33	16.33	ug/l	0.61	81000.00		138054.95	138011.56	137561.36
59 Co # 3	0.03198	0.03198	ug/l	5.31	1800.00		550.03	506.69	516.69
60 Ni # 2	1.583	1.583	ug/l	1.37	1800.00		1852.33	1873.45	1850.11
63 Cu # 2	4.099	4.099	ug/l	0.69	1800.00		13091.38	13245.94	13476.10
66 Zn # 3	5.39	5.39	ug/l	2.71	1800.00		12067.61	11470.52	11854.22
75 As # 2	0.1754	0.1754	ug/l	6.89	100.00		68.00	76.00	74.67
78 Se # 1	0.1442	0.1442	ug/l	10.69	100.00		57.33	57.33	50.67
88 Sr # 3	39.65	39.65	ug/l	0.34	1800.00		980939.38	998575.38	992667.88
95 Mo # 3	0.5483	0.5483	ug/l	5.24	1800.00		2173.52	2160.20	2373.55
107 Ag # 3	-0.005914	-0.005914	ug/l	14.20	100.00		66.67	53.34	50.00
111 Cd # 3	0.004206	0.004206	ug/l	34.88	100.00		19.52	16.19	12.81
118 Sn # 3	0.03406	0.03406	ug/l	38.64	1800.00		840.05	963.39	1040.07
121 Sb # 3	0.1047	0.1047	ug/l	13.77	100.00		1073.40	980.06	830.04
137 Ba # 3	2.45	2.45	ug/l	4.48	1800.00		9923.16	9126.03	9686.39
202 Hg # 3	-0.01219	-0.01219	ug/l	25.78	5.00		69.00	87.34	80.34
205 Tl # 3	0.001309	0.001309	ug/l	89.84	20.00		226.68	180.01	230.01
208 Pb # 3	1.145	1.145	ug/l	0.28	1800.00		39507.14	39857.60	39253.70
232 Th # 3	0.03192	0.03192	ug/l	3.10	#VALUE!		1270.10	1316.77	1300.10
238 U # 3	0.003527	0.003527	ug/l	22.35	#VALUE!		173.34	140.01	126.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	412936.34	0.84	442436.88	93.3	60 - 125		409240.41	413421.13	416147.50
45 Sc # 1	423229.81	0.73	456299.72	92.8	60 - 125		422746.00	426520.25	420423.22
45 Sc # 3	762680.25	0.96	765061.25	99.7	60 - 125		761353.19	756148.81	770538.63
74 Ge # 1	142886.91	0.19	153441.28	93.1	60 - 125		143187.94	142685.53	142787.25
74 Ge # 2	43953.17	0.87	47804.94	91.9	60 - 125		43683.24	43785.72	44390.55
74 Ge # 3	219750.47	0.74	224564.78	97.9	60 - 125		218796.22	218834.55	221620.63
89 Y # 3	1285805.30	0.86	1302847.50	98.7	60 - 125		1276206.60	1297823.10	1283385.90
115 In # 3	1306845.80	0.46	1366177.60	95.7	60 - 125		1300686.60	1307254.90	1312595.60
159 Tb # 3	1811342.00	0.51	2052817.90	88.2	60 - 125		1811686.60	1820332.50	1802007.00
209 Bi # 3	1113987.00	2.58	1405468.50	79.3	60 - 125		1091889.10	1103624.40	1146447.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\201SMPL.D\201SMPL.D#
 Date Acquired: Aug 27 2014 05:06 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-56-a
 Misc Info: DW
 Vial Number: 2203
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be # 3	4.793E-005	4.793E-005	ug/l	2263.70	100.00		0.00	3.33	0.00
11 B # 3	15.01	15.01	ug/l	1.53	1800.00		23207.52	22850.53	23574.67
23 Na # 1	7371	7371	ug/l	0.23	81000.00		23939500.00	23961328.00	24048754.00
24 Mg # 1	4309	4309	ug/l	0.60	81000.00		9773498.00	9839389.00	9783791.00
27 Al # 1	12.41	12.41	ug/l	1.42	81000.00		35072.46	34451.57	35570.26
39 K # 2	1159	1159	ug/l	0.61	81000.00		384761.44	388449.38	391309.00
40 Ca # 1	16590	16590	ug/l	0.79	81000.00		104617660.00	102652060.00	103687850.00
47 Ti # 3	0.5874	0.5874	ug/l	2.66	1620.00		746.71	783.37	766.71
51 V # 2	4.981	4.981	ug/l	1.27	1800.00		12825.60	12845.59	12699.93
52 Cr # 2	0.05674	0.05674	ug/l	8.07	1800.00		476.68	501.12	484.46
55 Mn # 3	28.79	28.79	ug/l	0.43	1800.00		539722.06	542847.31	541428.63
56 Fe # 1	203.6	203.6	ug/l	0.38	81000.00		1667808.40	1664577.00	1660760.10
59 Co # 3	0.1038	0.1038	ug/l	5.12	1800.00		1466.77	1613.45	1546.77
60 Ni # 2	2.008	2.008	ug/l	0.76	1800.00		2332.39	2294.61	2349.06
63 Cu # 2	9.928	9.928	ug/l	1.38	1800.00		31245.32	31539.21	31066.17
66 Zn # 3	12.86	12.86	ug/l	2.15	1800.00		26619.81	27090.54	27761.47
75 As # 2	0.1597	0.1597	ug/l	10.33	100.00		67.67	61.00	72.67
78 Se # 1	0.1293	0.1293	ug/l	13.31	100.00		51.33	47.67	56.00
88 Sr # 3	41.28	41.28	ug/l	1.54	1800.00		1025821.30	1019388.00	1045419.40
95 Mo # 3	0.4793	0.4793	ug/l	6.11	1800.00		2106.85	1906.82	1876.82
107 Ag # 3	-0.001169	-0.001169	ug/l	101.11	100.00		123.34	100.00	100.00
111 Cd # 3	0.01515	0.01515	ug/l	100.66	100.00		82.90	16.25	26.25
118 Sn # 3	-0.001452	-0.001452	ug/l	544.77	1800.00		623.36	703.37	726.70
121 Sb # 3	0.1012	0.1012	ug/l	6.46	100.00		876.71	923.38	983.39
137 Ba # 3	2.014	2.014	ug/l	3.19	1800.00		7685.29	7782.01	8108.87
202 Hg # 3	-0.005411	-0.005411	ug/l	150.66	5.00		108.01	72.00	117.34
205 Tl # 3	-0.001669	-0.001669	ug/l	64.95	20.00		130.01	170.01	120.01
208 Pb # 3	11.79	11.79	ug/l	0.40	1800.00		395841.13	398292.19	397605.41
232 Th # 3	0.02764	0.02764	ug/l	18.41	#VALUE!		1160.09	1323.43	1000.07
238 U # 3	0.002281	0.002281	ug/l	15.78	#VALUE!		93.34	106.67	113.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li # 3	410612.56	0.24	442436.88	92.8	60 - 125		409901.75	410197.44	411738.59
45 Sc # 1	421443.28	0.25	456299.72	92.4	60 - 125		421728.97	420281.75	422319.16
45 Sc # 3	757271.63	0.37	765061.25	99.0	60 - 125		754759.44	756790.94	760264.38
74 Ge # 1	143631.36	0.45	153441.28	93.6	60 - 125		143003.58	144304.44	143586.09
74 Ge # 2	43590.42	0.64	47804.94	91.2	60 - 125		43481.61	43382.55	43907.09
74 Ge # 3	218846.88	0.15	224564.78	97.5	60 - 125		219042.55	218456.25	219041.81
89 Y # 3	1284558.60	0.23	1302847.50	98.6	60 - 125		1285043.80	1287195.00	1281437.10
115 In # 3	1303149.90	0.64	1366177.60	95.4	60 - 125		1312513.50	1296393.40	1300542.80
159 Tb # 3	1821291.60	0.45	2052817.90	88.7	60 - 125		1814519.50	1818921.60	1830433.90
209 Bi # 3	1122276.80	2.66	1405468.50	79.9	60 - 125		1156574.00	1101822.60	1108433.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\202SMPL.D\202SMPL.D#
 Date Acquired: Aug 27 2014 05:14 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-55-a
 Misc Info: DW
 Vial Number: 2204
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001937	0.001937	ug/l	56.53	100.00		3.33	6.67	3.33
11 B #3	14.61	14.61	ug/l	1.69	1800.00		22086.22	22606.94	22970.55
23 Na #1	7414	7414	ug/l	0.23	81000.00		23735526.00	23679208.00	23913470.00
24 Mg #1	4436	4436	ug/l	0.55	81000.00		9941876.00	9861737.00	10016503.00
27 Al #1	4.267	4.267	ug/l	1.86	81000.00		12691.13	12757.86	13164.86
39 K #2	1176	1176	ug/l	1.19	81000.00		385866.91	390551.19	392077.75
40 Ca #1	16950	16950	ug/l	0.03	81000.00		104165400.00	104212640.00	104782670.00
47 Ti #3	0.5463	0.5463	ug/l	6.05	1620.00		693.37	756.70	690.03
51 V #2	2.085	2.085	ug/l	2.91	1800.00		5314.13	5565.32	5389.71
52 Cr #2	0.06598	0.06598	ug/l	6.50	1800.00		516.68	517.79	495.57
55 Mn #3	7.677	7.677	ug/l	0.37	1800.00		142776.03	142957.66	144300.78
56 Fe #1	123.2	123.2	ug/l	1.72	81000.00		978332.19	985963.19	1017185.00
59 Co #3	2.316	2.316	ug/l	1.02	1800.00		32669.41	32328.80	32465.70
60 Ni #2	56.59	56.59	ug/l	0.77	1800.00		63228.18	63311.84	63965.17
63 Cu #2	119.1	119.1	ug/l	1.05	1800.00		363776.09	367351.72	369141.69
66 Zn #3	186.9	186.9	ug/l	0.64	1800.00		379822.34	380764.63	382233.63
75 As #2	0.1705	0.1705	ug/l	5.91	100.00		67.67	68.33	73.67
78 Se #1	0.1215	0.1215	ug/l	18.16	100.00		53.00	42.67	51.00
88 Sr #3	41.66	41.66	ug/l	0.96	1800.00		1028187.50	1033761.90	1042150.50
95 Mo #3	0.4878	0.4878	ug/l	2.05	1800.00		1996.83	1966.84	1963.50
107 Ag #3	0.01205	0.01205	ug/l	5.90	100.00		253.34	246.68	243.34
111 Cd #3	0.07024	0.07024	ug/l	5.67	100.00		156.23	176.24	172.91
118 Sn #3	0.01984	0.01984	ug/l	13.85	1800.00		840.04	840.05	816.71
121 Sb #3	0.4612	0.4612	ug/l	2.18	100.00		4103.95	4010.60	4033.91
137 Ba #3	2.245	2.245	ug/l	2.38	1800.00		8659.15	8468.98	8885.94
202 Hg #3	-0.01753	-0.01753	ug/l	11.02	5.00		61.00	69.00	59.67
205 Tl #3	-0.0004048	-0.0004048	ug/l	237.77	20.00		146.67	166.67	196.67
208 Pb #3	64.8	64.8	ug/l	1.18	1800.00		2153943.00	2166014.80	2159412.00
232 Th #3	0.01681	0.01681	ug/l	5.05	#VALUE!		800.05	813.38	746.71
238 U #3	0.0006422	0.0006422	ug/l	69.40	#VALUE!		60.00	50.00	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	408710.47	0.55	442436.88	92.4	60 - 125		407182.50	407672.00	411276.91
45 Sc #1	415363.28	0.35	456299.72	91.0	60 - 125		414323.03	414724.47	417042.41
45 Sc #3	750540.63	1.66	765061.25	98.1	60 - 125		736639.44	754361.19	760621.25
74 Ge #1	141186.70	0.33	153441.28	92.0	60 - 125		141043.23	140813.47	141703.39
74 Ge #2	43109.69	0.42	47804.94	90.2	60 - 125		43280.09	42922.57	43126.41
74 Ge #3	215716.97	0.89	224564.78	96.1	60 - 125		214907.55	214328.08	217915.31
89 Y #3	1278209.00	0.95	1302847.50	98.1	60 - 125		1266686.50	1290816.50	1277124.30
115 In #3	1290262.60	1.00	1366177.60	94.4	60 - 125		1275605.30	1295185.60	1299997.00
159 Tb #3	1806882.60	1.08	2052817.90	88.0	60 - 125		1799170.00	1792330.80	1829147.00
209 Bi #3	1104935.30	2.24	1405468.50	78.6	60 - 125		1089978.50	1133451.30	1091375.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\203SMPL.D\203SMPL.D#
 Date Acquired: Aug 27 2014 05:21 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-52-a
 Misc Info: DW
 Vial Number: 2205
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.0006856	0.0006856	ug/l	159.71	100.00		3.33	3.33	0.00
11 B #3	14.35	14.35	ug/l	0.52	1800.00		21966.11	22226.40	22223.11
23 Na #1	7258	7258	ug/l	0.47	81000.00		23345296.00	23428832.00	23126480.00
24 Mg #1	4275	4275	ug/l	0.83	81000.00		9541262.00	9639136.00	9588452.00
27 Al #1	20.99	20.99	ug/l	1.15	81000.00		57058.77	58085.01	57051.57
39 K #2	1153	1153	ug/l	6.80	81000.00		378895.28	380748.75	381158.38
40 Ca #1	16400	16400	ug/l	0.68	81000.00		101178890.00	100699900.00	101408330.00
47 Ti #3	0.5753	0.5753	ug/l	2.39	1620.00		763.37	746.71	743.37
51 V #2	8.408	8.408	ug/l	6.39	1800.00		21139.78	21121.98	21055.25
52 Cr #2	0.09688	0.09688	ug/l	10.26	1800.00		615.57	604.46	583.35
55 Mn #3	4.918	4.918	ug/l	0.06	1800.00		92364.75	92837.45	93403.63
56 Fe #1	83.38	83.38	ug/l	0.17	81000.00		679083.25	673823.88	671531.63
59 Co #3	0.05715	0.05715	ug/l	2.26	1800.00		876.71	883.38	856.71
60 Ni #2	1.118	1.118	ug/l	7.53	1800.00		1277.83	1296.72	1311.17
63 Cu #2	17.22	17.22	ug/l	6.81	1800.00		52938.74	53052.40	53298.70
66 Zn #3	9.738	9.738	ug/l	1.38	1800.00		20375.08	20285.01	20975.66
75 As #2	0.1716	0.1716	ug/l	3.92	100.00		67.67	76.00	66.67
78 Se #1	0.1161	0.1161	ug/l	8.56	100.00		48.33	49.67	45.00
88 Sr #3	41.17	41.17	ug/l	0.56	1800.00		1012902.50	1018604.90	1021481.80
95 Mo #3	0.5181	0.5181	ug/l	1.10	1800.00		2096.85	2120.19	2113.53
107 Ag #3	0.0004013	0.0004013	ug/l	299.28	100.00		136.67	123.34	113.34
111 Cd #3	0.005192	0.005192	ug/l	14.98	100.00		16.21	19.53	19.54
118 Sn #3	-0.02352	-0.02352	ug/l	16.71	1800.00		526.69	543.36	496.69
121 Sb #3	0.09836	0.09836	ug/l	6.67	100.00		940.05	833.38	933.39
137 Ba #3	2.661	2.661	ug/l	1.11	1800.00		10406.82	10223.32	10453.52
202 Hg #3	-0.01087	-0.01087	ug/l	26.03	5.00		80.00	92.00	76.00
205 Tl #3	-0.003585	-0.003585	ug/l	14.58	20.00		83.34	86.67	106.67
208 Pb #3	6.908	6.908	ug/l	0.90	1800.00		230147.67	231934.11	233561.97
232 Th #3	0.009625	0.009625	ug/l	19.01	#VALUE!		616.69	543.36	546.69
238 U #3	0.001925	0.001925	ug/l	18.84	#VALUE!		80.00	110.00	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	407968.63	1.14	442436.88	92.2	60 - 125		402603.66	410429.69	410872.53
45 Sc #1	415805.03	0.46	456299.72	91.1	60 - 125		417713.81	415848.69	413852.63
45 Sc #3	756426.50	0.96	765061.25	98.9	60 - 125		753865.81	750755.19	764658.50
74 Ge #1	141534.41	0.14	153441.28	92.2	60 - 125		141320.84	141578.00	141704.41
74 Ge #2	43027.68	6.47	47804.94	90.0	60 - 125		43089.56	45778.95	40214.52
74 Ge #3	216959.70	0.58	224564.78	96.6	60 - 125		215841.61	216729.38	218308.13
89 Y #3	1272130.60	0.16	1302847.50	97.6	60 - 125		1274363.90	1270443.90	1271584.00
115 In #3	1301668.90	1.12	1366177.60	95.3	60 - 125		1291273.10	1295384.40	1318349.00
159 Tb #3	1810329.40	0.20	2052817.90	88.2	60 - 125		1811631.60	1813031.60	1806324.50
209 Bi #3	1147414.00	3.60	1405468.50	81.6	60 - 125		1100774.80	1162216.50	1179250.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\204SMPL.D\204SMPL.D#
 Date Acquired: Aug 27 2014 05:28 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-62-a
 Misc Info: DW
 Vial Number: 2206
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	14.82	14.82	ug/l	0.36	1800.00		21822.62	22042.87	21986.09
23 Na # 1	8444	8444	ug/l	1.26	81000.00		26136292.00	25899198.00	25948812.00
24 Mg # 1	4778	4778	ug/l	1.41	81000.00		10350165.00	10221320.00	10282186.00
27 Al # 1	13.59	13.59	ug/l	1.24	81000.00		36298.31	36508.60	35750.71
39 K # 2	1123	1123	ug/l	0.67	81000.00		357864.28	361152.84	361682.44
40 Ca # 1	17820	17820	ug/l	0.94	81000.00		105477210.00	105169150.00	105578910.00
47 Ti # 3	0.5326	0.5326	ug/l	14.20	1620.00		746.71	593.36	653.36
51 V # 2	5.804	5.804	ug/l	0.53	1800.00		14030.90	14450.11	14206.60
52 Cr # 2	0.005891	0.005891	ug/l	183.84	1800.00		282.23	323.34	347.78
55 Mn # 3	66.51	66.51	ug/l	0.95	1800.00		1187670.80	1187880.90	1196009.60
56 Fe # 1	170.6	170.6	ug/l	0.35	81000.00		1311515.90	1333915.90	1315736.00
59 Co # 3	3.442	3.442	ug/l	1.31	1800.00		46569.11	46953.27	46498.89
60 Ni # 2	18.84	18.84	ug/l	0.95	1800.00		20483.62	20486.95	20491.39
63 Cu # 2	40.99	40.99	ug/l	1.10	1800.00		122177.25	122026.02	122860.64
66 Zn # 3	127.1	127.1	ug/l	1.05	1800.00		250005.16	250991.45	250841.30
75 As # 2	0.1827	0.1827	ug/l	15.88	100.00		60.33	77.33	77.00
78 Se # 1	0.1275	0.1275	ug/l	7.93	100.00		50.67	46.00	49.00
88 Sr # 3	41.54	41.54	ug/l	1.17	1800.00		1001752.40	996167.81	997594.75
95 Mo # 3	0.5226	0.5226	ug/l	0.37	1800.00		2040.17	2053.51	2056.85
107 Ag # 3	-0.0002401	-0.0002401	ug/l	353.14	100.00		116.67	103.34	120.00
111 Cd # 3	0.03523	0.03523	ug/l	36.16	100.00		106.22	52.88	96.22
118 Sn # 3	0.3776	0.3776	ug/l	2.03	1800.00		3353.77	3343.76	3297.07
121 Sb # 3	0.1603	0.1603	ug/l	9.28	100.00		1356.77	1283.42	1540.12
137 Ba # 3	2.131	2.131	ug/l	1.29	1800.00		8035.45	7905.42	8062.14
202 Hg # 3	-0.01652	-0.01652	ug/l	3.79	5.00		63.33	62.00	66.33
205 Tl # 3	-0.001513	-0.001513	ug/l	53.09	20.00		116.67	143.34	153.34
208 Pb # 3	1.66	1.66	ug/l	1.06	1800.00		54404.88	54725.87	54738.65
232 Th # 3	0.02494	0.02494	ug/l	10.25	#VALUE!		1023.40	926.72	1096.74
238 U # 3	0.001939	0.001939	ug/l	32.35	#VALUE!		83.34	110.00	70.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392922.66	0.21	442436.88	88.8	60 - 125		392078.06	393684.72	393005.16
45 Sc # 1	398981.66	0.78	456299.72	87.4	60 - 125		395775.66	402027.84	399141.47
45 Sc # 3	714416.31	1.57	765061.25	93.4	60 - 125		708394.75	707528.19	727326.00
74 Ge # 1	136176.48	0.35	153441.28	88.7	60 - 125		136470.94	136431.72	135626.78
74 Ge # 2	41713.82	0.96	47804.94	87.3	60 - 125		41332.22	42128.41	41680.83
74 Ge # 3	208654.80	0.85	224564.78	92.9	60 - 125		210433.36	206884.30	208646.73
89 Y # 3	1237031.10	1.01	1302847.50	94.9	60 - 125		1233667.80	1250871.90	1226553.90
115 In # 3	1254261.50	0.77	1366177.60	91.8	60 - 125		1243993.50	1255780.90	1263009.60
159 Tb # 3	1744069.60	0.88	2052817.90	85.0	60 - 125		1749199.80	1726768.80	1756240.40
209 Bi # 3	1063532.80	0.42	1405468.50	75.7	60 - 125		1065475.30	1058367.10	1066755.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\205_CCV.D\205_CCV.D#
 Date Acquired: Aug 27 2014 05:36 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	47.99 ug/l	0.59	50.00	89.5 - 110		80410.98	80400.84	81418.76
11 B	94.52 ug/l	0.68	100.00	89.5 - 110		126738.37	126184.24	128442.29
23 Na	4974 ug/l	5.74	5000.00	89.5 - 110		15583860.00	15413773.00	15575573.00
24 Mg	4855 ug/l	5.93	5000.00	89.5 - 110		10640583.00	10470760.00	10596128.00
27 Al	506.2 ug/l	5.58	500.00	89.5 - 110		1314924.10	1302866.80	1311110.80
39 K	5084 ug/l	1.33	5000.00	89.5 - 110		1538529.50	1549062.90	1549568.30
40 Ca	5066 ug/l	5.36	5000.00	89.5 - 110		30344632.00	30225260.00	30401746.00
47 Ti	51.69 ug/l	0.99	50.00	89.5 - 110		52303.29	51858.82	53399.69
51 V	50.33 ug/l	1.03	50.00	89.5 - 110		117519.95	118614.64	119078.84
52 Cr	49.62 ug/l	1.80	50.00	89.5 - 110		141655.66	141343.14	141462.67
55 Mn	509.8 ug/l	0.55	500.00	89.5 - 110		8951065.00	8994278.00	9070160.00
56 Fe	5162 ug/l	5.63	5000.00	89.5 - 110		40414588.00	40040988.00	40438780.00
59 Co	49.78 ug/l	0.70	50.00	89.5 - 110		660516.75	666075.88	670994.75
60 Ni	50.79 ug/l	1.91	50.00	89.5 - 110		53468.90	54147.64	53279.47
63 Cu	49.63 ug/l	1.48	50.00	89.5 - 110		143653.94	143947.17	144370.47
66 Zn	44.92 ug/l	0.24	50.00	89.5 - 110		87547.73	87480.92	88670.31
75 As	49.5 ug/l	1.27	50.00	89.5 - 110		15209.99	15264.37	15354.12
78 Se	45.17 ug/l	5.19	50.00	89.5 - 110		10828.22	10605.09	10761.19
88 Sr	48.95 ug/l	0.09	50.00	89.5 - 110		1162277.60	1164118.10	1161846.00
95 Mo	50.71 ug/l	0.62	50.00	89.5 - 110		184114.63	183859.34	187278.67
107 Ag	48.48 ug/l	0.53	50.00	89.5 - 110		491440.31	495539.78	496642.81
111 Cd	47.13 ug/l	0.96	50.00	89.5 - 110		102639.89	103789.70	105194.46
118 Sn	49.31 ug/l	0.28	50.00	89.5 - 110		340667.34	341063.06	344546.69
121 Sb	47.33 ug/l	0.52	50.00	89.5 - 110		391188.09	393980.69	393784.72
137 Ba	48.74 ug/l	0.15	50.00	89.5 - 110		178654.41	178153.06	180119.89
202 Hg	2.429 ug/l	0.59	2.50	89.5 - 110		6788.80	6818.80	6940.54
205 Tl	9.233 ug/l	0.56	10.00	89.5 - 110		216494.00	215270.22	219170.56
208 Pb	46.23 ug/l	0.18	50.00	89.5 - 110		1470513.90	1480542.50	1488042.50

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	388988.72	1.23	442436.88	87.9	60 - 125		384869.63	387868.00	394228.53
45 Sc	404344.19	5.23	456299.72	88.6	60 - 125		387616.19	428124.22	397292.22
45 Sc	689204.50	0.53	765061.25	90.1	60 - 125		687569.56	686632.69	693411.19
74 Ge	136948.20	4.25	153441.28	89.3	60 - 125		133087.36	143643.31	134113.94
74 Ge	40569.82	1.70	47804.94	84.9	60 - 125		39814.46	40727.56	41167.47
74 Ge	206105.91	0.90	224564.78	91.8	60 - 125		205598.67	204564.98	208154.08
89 Y	1222579.30	0.02	1302847.50	93.8	60 - 125		1222672.50	1222787.30	1222278.10
115 In	1231811.50	0.42	1366177.60	90.2	60 - 125		1230332.80	1227521.90	1237579.60
159 Tb	1734530.50	0.60	2052817.90	84.5	60 - 125		1725548.60	1731977.30	1746065.80
209 Bi	1040010.90	0.41	1405468.50	74.0	60 - 125		1038177.50	1036934.80	1044920.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\206_CCB.D\206_CCB.D#
 Date Acquired: Aug 27 2014 05:43 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.009368	0.009368	ug/l	21.55	#VALUE!		13.33	16.67	20.00
11 B #3	1.812	1.812	ug/l	5.86	#VALUE!		4687.36	4470.62	4400.61
23 Na #1	-10.85	-10.85	ug/l	1.06	#VALUE!		49363.59	49951.78	49915.30
24 Mg #1	0.3884	0.3884	ug/l	22.48	#VALUE!		1523.44	1803.47	1873.48
27 Al #1	0.3725	0.3725	ug/l	12.21	#VALUE!		2233.52	2273.53	2463.55
39 K #2	-11.06	-11.06	ug/l	8.33	#VALUE!		8355.42	8272.04	7968.59
40 Ca #1	2.244	2.244	ug/l	4.67	#VALUE!		35477.25	34605.59	34588.99
47 Ti #3	-0.06717	-0.06717	ug/l	10.55	#VALUE!		40.00	30.00	26.67
51 V #2	0.003462	0.003462	ug/l	63.20	#VALUE!		211.11	222.23	212.23
52 Cr #2	-0.01297	-0.01297	ug/l	42.08	#VALUE!		271.12	248.89	250.00
55 Mn #3	0.08699	0.08699	ug/l	3.18	#VALUE!		2833.64	2846.97	2960.32
56 Fe #1	1.156	1.156	ug/l	3.31	#VALUE!		12267.75	12110.89	12771.33
59 Co #3	0.005733	0.005733	ug/l	26.95	#VALUE!		156.67	116.67	146.67
60 Ni #2	0.02706	0.02706	ug/l	38.36	#VALUE!		61.11	75.56	84.45
63 Cu #2	-0.04755	-0.04755	ug/l	1.76	#VALUE!		244.45	251.12	254.45
66 Zn #3	0.02065	0.02065	ug/l	121.40	#VALUE!		600.03	676.70	596.70
75 As #2	0.01057	0.01057	ug/l	96.31	#VALUE!		14.67	14.67	20.33
78 Se #1	-0.03392	-0.03392	ug/l	7.43	#VALUE!		9.67	10.67	10.67
88 Sr #3	0.006672	0.006672	ug/l	26.08	#VALUE!		290.01	353.35	273.34
95 Mo #3	0.02341	0.02341	ug/l	34.20	#VALUE!		210.01	213.34	160.01
107 Ag #3	0.001248	0.001248	ug/l	145.67	#VALUE!		113.34	150.01	120.00
111 Cd #3	0.006244	0.006244	ug/l	47.20	#VALUE!		19.95	26.62	13.30
118 Sn #3	-0.01939	-0.01939	ug/l	34.66	#VALUE!		566.69	480.02	536.69
121 Sb #3	0.02084	0.02084	ug/l	18.93	#VALUE!		173.34	230.01	233.34
137 Ba #3	0.007067	0.007067	ug/l	6.55	#VALUE!		60.00	63.34	63.34
202 Hg #3	0.003914	0.003914	ug/l	37.15	#VALUE!		123.00	116.00	118.33
205 Tl #3	-0.002141	-0.002141	ug/l	27.70	#VALUE!		123.34	106.67	133.34
208 Pb #3	0.004531	0.004531	ug/l	830.94	#VALUE!		743.37	640.03	2753.43

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	387525.75	0.34	442436.88	87.6	60 - 125		388230.94	388325.66	386020.63
45 Sc #1	383892.28	0.49	456299.72	84.1	60 - 125		383074.38	382570.88	386031.56
45 Sc #3	673465.44	0.34	765061.25	88.0	60 - 125		671952.81	672358.44	676085.00
74 Ge #1	134789.27	0.12	153441.28	87.8	60 - 125		134967.58	134669.75	134730.47
74 Ge #2	40809.99	1.17	47804.94	85.4	60 - 125		40258.70	41066.15	41105.12
74 Ge #3	204694.36	0.75	224564.78	91.2	60 - 125		203987.97	203640.91	206454.19
89 Y #3	1210416.00	1.11	1302847.50	92.9	60 - 125		1194872.90	1218596.50	1217778.60
115 In #3	1243664.50	0.59	1366177.60	91.0	60 - 125		1238188.30	1252009.40	1240795.90
159 Tb #3	1718385.80	0.39	2052817.90	83.7	60 - 125		1712537.40	1725577.90	1717041.60
209 Bi #3	1056411.60	0.35	1405468.50	75.2	60 - 125		1054553.40	1054044.30	1060637.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\207SMPL.D\207SMPL.D#
 Date Acquired: Aug 27 2014 05:51 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-33-a
 Misc Info: DW
 Vial Number: 2207
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002037	0.002037	ug/l	55.97	100.00		3.33	6.67	3.33
11 B #3	13.76	13.76	ug/l	0.20	1800.00		20551.26	20497.82	20627.93
23 Na #1	7268	7268	ug/l	0.74	81000.00		22528078.00	22393340.00	22454258.00
24 Mg #1	4308	4308	ug/l	0.96	81000.00		9290689.00	9297435.00	9319515.00
27 Al #1	21.84	21.84	ug/l	0.94	81000.00		57757.21	57072.05	57513.15
39 K #2	1110	1110	ug/l	0.45	81000.00		355205.72	357852.69	359189.56
40 Ca #1	16220	16220	ug/l	0.99	81000.00		96122904.00	96099448.00	96449528.00
47 Ti #3	0.6946	0.6946	ug/l	5.21	1620.00		806.71	800.04	916.83
51 V #2	5.369	5.369	ug/l	0.81	1800.00		12974.59	13349.26	13341.50
52 Cr #2	0.09793	0.09793	ug/l	9.63	1800.00		577.79	567.79	621.13
55 Mn #3	21.1	21.1	ug/l	0.51	1800.00		375472.75	381880.34	384875.13
56 Fe #1	687.8	687.8	ug/l	0.60	81000.00		5330630.00	5349026.00	5308208.50
59 Co #3	0.1043	0.1043	ug/l	3.85	1800.00		1473.44	1546.77	1436.77
60 Ni #2	2.062	2.062	ug/l	1.04	1800.00		2244.60	2326.83	2301.27
63 Cu #2	36.78	36.78	ug/l	0.37	1800.00		109543.58	110845.53	110190.67
66 Zn #3	63.98	63.98	ug/l	1.42	1800.00		127888.19	126659.87	126905.30
75 As #2	0.1529	0.1529	ug/l	3.09	100.00		63.00	61.00	62.67
78 Se #1	0.1343	0.1343	ug/l	9.88	100.00		51.67	53.00	47.00
88 Sr #3	37.57	37.57	ug/l	3.05	1800.00		928536.13	898492.19	887917.19
95 Mo #3	0.2872	0.2872	ug/l	5.78	1800.00		1183.41	1103.41	1223.41
107 Ag #3	0.005833	0.005833	ug/l	10.63	100.00		170.01	183.34	173.34
111 Cd #3	0.08922	0.08922	ug/l	13.87	100.00		196.41	236.43	183.07
118 Sn #3	1.717	1.717	ug/l	0.68	1800.00		12711.64	12708.33	12711.67
121 Sb #3	0.3211	0.3211	ug/l	4.33	100.00		2663.62	2880.32	2673.63
137 Ba #3	1.984	1.984	ug/l	1.74	1800.00		7228.40	7455.20	7571.90
202 Hg #3	-0.005923	-0.005923	ug/l	81.33	5.00		96.00	78.67	105.67
205 Tl #3	-0.002049	-0.002049	ug/l	169.11	20.00		63.34	93.34	220.15
208 Pb #3	8.629	8.629	ug/l	0.93	1800.00		278220.94	278517.09	279086.16
232 Th #3	0.02515	0.02515	ug/l	6.94	#VALUE!		1033.40	1073.40	966.73
238 U #3	0.003938	0.003938	ug/l	21.17	#VALUE!		136.67	140.01	186.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	393171.81	0.27	442436.88	88.9	60 - 125		393763.03	391945.34	393807.03
45 Sc #1	400236.84	0.79	456299.72	87.7	60 - 125		403034.25	400898.56	396777.75
45 Sc #3	719051.00	3.17	765061.25	94.0	60 - 125		707829.06	704077.56	745246.25
74 Ge #1	137216.42	0.13	153441.28	89.4	60 - 125		137413.86	137050.56	137184.86
74 Ge #2	41847.88	0.85	47804.94	87.5	60 - 125		41443.68	42101.79	41998.17
74 Ge #3	209752.83	0.90	224564.78	93.4	60 - 125		207583.69	210861.77	210812.98
89 Y #3	1239677.80	0.76	1302847.50	95.2	60 - 125		1231039.90	1238243.90	1249749.60
115 In #3	1248208.90	0.64	1366177.60	91.4	60 - 125		1239187.10	1251118.40	1254321.00
159 Tb #3	1743551.50	1.07	2052817.90	84.9	60 - 125		1723638.90	1746307.90	1760707.90
209 Bi #3	1066153.60	0.18	1405468.50	75.9	60 - 125		1065673.80	1064571.40	1068216.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\208SMPL.D\208SMPL.D#
 Date Acquired: Aug 27 2014 05:58 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-67-a
 Misc Info: DW
 Vial Number: 2208
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.003252	0.003252	ug/l	117.56	100.00		0.00	6.67	13.33
11 B #3	14.45	14.45	ug/l	2.69	1800.00		22119.58	21315.37	22443.39
23 Na #1	8156	8156	ug/l	0.76	81000.00		26306702.00	26116060.00	26224430.00
24 Mg #1	4484	4484	ug/l	0.85	81000.00		10118383.00	10063937.00	10040543.00
27 Al #1	15.3	15.3	ug/l	1.48	81000.00		41946.07	43092.31	41973.05
39 K #2	1122	1122	ug/l	1.08	81000.00		371523.22	372701.50	372034.47
40 Ca #1	17220	17220	ug/l	0.27	81000.00		106075640.00	106536090.00	106394530.00
47 Ti #3	0.6294	0.6294	ug/l	2.21	1620.00		786.71	800.04	786.71
51 V #2	6.761	6.761	ug/l	1.19	1800.00		17099.00	17086.76	17082.33
52 Cr #2	0.08929	0.08929	ug/l	2.79	1800.00		578.90	580.01	582.24
55 Mn #3	2.787	2.787	ug/l	0.52	1800.00		53206.66	52858.82	53380.34
56 Fe #1	51.27	51.27	ug/l	0.34	81000.00		416620.19	417258.22	417581.78
59 Co #3	0.04146	0.04146	ug/l	2.72	1800.00		656.70	630.03	663.37
60 Ni #2	6.019	6.019	ug/l	0.50	1800.00		6801.30	6863.54	6722.38
63 Cu #2	23.57	23.57	ug/l	1.34	1800.00		72259.16	73010.90	73315.41
66 Zn #3	63.97	63.97	ug/l	0.60	1800.00		130295.31	131771.98	131627.50
75 As #2	0.1618	0.1618	ug/l	8.71	100.00		63.33	66.00	71.67
78 Se #1	0.1203	0.1203	ug/l	17.78	100.00		54.67	44.67	47.67
88 Sr #3	40.02	40.02	ug/l	2.31	1800.00		976373.63	972322.81	1007503.10
95 Mo #3	0.5366	0.5366	ug/l	3.03	1800.00		2066.84	2193.54	2146.86
107 Ag #3	-9.73E-005	-9.73E-005	ug/l	832.75	100.00		106.67	123.34	120.01
111 Cd #3	0.01269	0.01269	ug/l	27.15	100.00		39.55	39.52	26.20
118 Sn #3	0.01459	0.01459	ug/l	38.51	1800.00		806.71	736.71	810.04
121 Sb #3	0.1698	0.1698	ug/l	2.55	100.00		1466.78	1536.78	1486.77
137 Ba #3	2.018	2.018	ug/l	3.17	1800.00		7421.82	7698.66	7982.08
202 Hg #3	-0.01528	-0.01528	ug/l	16.32	5.00		60.67	67.33	75.33
205 Tl #3	-0.004917	-0.004917	ug/l	1.39	20.00		56.67	56.67	60.00
208 Pb #3	0.8791	0.8791	ug/l	1.84	1800.00		29595.07	30165.47	29348.18
232 Th #3	0.02228	0.02228	ug/l	6.77	#VALUE!		980.07	926.72	886.72
238 U #3	0.002571	0.002571	ug/l	34.99	#VALUE!		76.67	136.67	113.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	401921.13	0.26	442436.88	90.8	60 - 125		401601.50	401055.47	403106.34
45 Sc #1	416478.94	0.45	456299.72	91.3	60 - 125		414334.00	417281.22	417821.53
45 Sc #3	737703.69	2.91	765061.25	96.4	60 - 125		724475.06	762437.88	726198.13
74 Ge #1	142435.19	0.53	153441.28	92.8	60 - 125		142153.72	143291.61	141860.25
74 Ge #2	43103.70	1.18	47804.94	90.2	60 - 125		42891.33	43682.11	42737.67
74 Ge #3	216505.33	0.65	224564.78	96.4	60 - 125		215485.02	215929.25	218101.72
89 Y #3	1267384.40	0.63	1302847.50	97.3	60 - 125		1261655.40	1276518.00	1263979.60
115 In #3	1274296.80	0.51	1366177.60	93.3	60 - 125		1269289.40	1271974.60	1281626.40
159 Tb #3	1754857.50	0.52	2052817.90	85.5	60 - 125		1747887.50	1751505.00	1765179.80
209 Bi #3	1063959.50	0.48	1405468.50	75.7	60 - 125		1060554.40	1069769.60	1061554.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\209SMPL.D\209SMPL.D#
 Date Acquired: Aug 27 2014 06:05 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-54-a
 Misc Info: DW
 Vial Number: 2209
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002724	0.002724	ug/l	44.20	100.00		3.33	6.67	6.67
11 B # 3	14.28	14.28	ug/l	5.92	1800.00		21282.06	20641.31	21458.93
23 Na # 1	7335	7335	ug/l	14.68	81000.00		23124986.00	23706402.00	23427152.00
24 Mg # 1	4324	4324	ug/l	14.62	81000.00		9519187.00	9756872.00	9668728.00
27 Al # 1	20.43	20.43	ug/l	16.24	81000.00		54330.57	57018.21	55316.66
39 K # 2	1149	1149	ug/l	0.40	81000.00		375704.72	377937.28	378287.78
40 Ca # 1	16540	16540	ug/l	14.70	81000.00		99745008.00	102421160.00	102057290.00
47 Ti # 3	0.6197	0.6197	ug/l	2.95	1620.00		776.70	813.37	700.03
51 V # 2	8.034	8.034	ug/l	0.09	1800.00		19927.36	20172.04	20182.07
52 Cr # 2	0.09618	0.09618	ug/l	15.50	1800.00		622.24	546.68	618.91
55 Mn # 3	5.637	5.637	ug/l	4.08	1800.00		102919.96	100668.07	100946.02
56 Fe # 1	132.9	132.9	ug/l	14.97	81000.00		1050552.40	1083308.60	1068254.40
59 Co # 3	0.04617	0.04617	ug/l	5.42	1800.00		680.03	740.04	640.03
60 Ni # 2	1.044	1.044	ug/l	6.15	1800.00		1241.17	1128.93	1252.28
63 Cu # 2	16.42	16.42	ug/l	1.07	1800.00		50401.75	50875.28	50118.86
66 Zn # 3	12.59	12.59	ug/l	5.09	1800.00		25064.21	25204.52	25338.04
75 As # 2	0.1519	0.1519	ug/l	4.90	100.00		63.67	60.67	65.33
78 Se # 1	0.113	0.113	ug/l	33.34	100.00		41.67	52.67	46.67
88 Sr # 3	41.77	41.77	ug/l	7.22	1800.00		999818.19	978547.88	990416.31
95 Mo # 3	0.534	0.534	ug/l	14.96	1800.00		2056.86	1883.50	2156.87
107 Ag # 3	-0.0004705	-0.0004705	ug/l	210.22	100.00		120.00	116.67	90.00
111 Cd # 3	0.01383	0.01383	ug/l	39.46	100.00		22.88	46.25	39.53
118 Sn # 3	-0.01573	-0.01573	ug/l	30.98	1800.00		553.36	546.69	533.36
121 Sb # 3	0.1332	0.1332	ug/l	9.05	100.00		1050.06	1226.75	1130.08
137 Ba # 3	2.586	2.586	ug/l	6.64	1800.00		9709.65	9409.55	9269.49
202 Hg # 3	-0.01432	-0.01432	ug/l	25.73	5.00		65.33	65.67	74.67
205 Tl # 3	-0.003398	-0.003398	ug/l	88.70	20.00		53.34	53.34	160.08
208 Pb # 3	7.981	7.981	ug/l	7.90	1800.00		254483.72	249752.27	255490.78
232 Th # 3	0.004763	0.004763	ug/l	14.09	#VALUE!		386.68	370.02	353.35
238 U # 3	0.002083	0.002083	ug/l	19.92	#VALUE!		93.34	83.34	96.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	391360.53	3.77	442436.88	88.5	60 - 125		401622.59	397988.75	374470.28
45 Sc # 1	419142.03	13.71	456299.72	91.9	60 - 125		480508.34	366550.88	410366.84
45 Sc # 3	722263.19	9.69	765061.25	94.4	60 - 125		748549.88	775338.19	642901.56
74 Ge # 1	143324.34	8.46	153441.28	93.4	60 - 125		156542.25	132715.09	140715.67
74 Ge # 2	42730.62	0.75	47804.94	89.4	60 - 125		42362.38	42869.08	42960.40
74 Ge # 3	207535.53	4.35	224564.78	92.4	60 - 125		213522.36	211944.11	197140.09
89 Y # 3	1223119.30	6.67	1302847.50	93.9	60 - 125		1253166.40	1285430.90	1130760.40
115 In # 3	1226922.10	7.45	1366177.60	89.8	60 - 125		1247778.50	1306070.30	1126917.60
159 Th # 3	1718754.50	6.67	2052817.90	83.7	60 - 125		1751072.30	1813713.10	1591478.00
209 Bi # 3	1054240.90	7.57	1405468.50	75.0	60 - 125		1069122.90	1125604.10	967995.31

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\210SMPL.D\210SMPL.D#
 Date Acquired: Aug 27 2014 06:13 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-81-a
 Misc Info: DW
 Vial Number: 2210
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007336	0.0007336	ug/l	154.85	100.00		3.33	0.00	3.33
11 B #3	14.39	14.39	ug/l	2.38	1800.00		20921.62	21472.25	21612.35
23 Na #1	7853	7853	ug/l	3.74	81000.00		25481546.00	25386336.00	25049670.00
24 Mg #1	4285	4285	ug/l	3.62	81000.00		9722572.00	9646047.00	9583739.00
27 Al #1	19.17	19.17	ug/l	3.49	81000.00		53103.78	52575.51	52649.67
39 K #2	1134	1134	ug/l	0.80	81000.00		365365.72	364299.38	365139.63
40 Ca #1	16200	16200	ug/l	3.93	81000.00		101267030.00	100315040.00	99192752.00
47 Ti #3	0.5824	0.5824	ug/l	4.94	1620.00		726.71	670.03	726.70
51 V #2	12.58	12.58	ug/l	1.31	1800.00		30374.69	30662.89	31023.48
52 Cr #2	0.1088	0.1088	ug/l	6.32	1800.00		595.57	635.57	631.13
55 Mn #3	0.6339	0.6339	ug/l	2.44	1800.00		12778.07	12474.48	12988.15
56 Fe #1	0.796	0.796	ug/l	9.22	81000.00		10866.78	10483.22	10309.95
59 Co #3	0.02279	0.02279	ug/l	11.39	1800.00		350.01	360.01	413.35
60 Ni #2	1.341	1.341	ug/l	1.78	1800.00		1495.63	1492.30	1526.75
63 Cu #2	384.5	384.5	ug/l	0.80	1800.00		1133874.60	1163498.80	1146226.50
66 Zn #3	31.97	31.97	ug/l	1.18	1800.00		64446.37	62817.81	63720.85
75 As #2	0.1871	0.1871	ug/l	4.94	100.00		71.67	77.00	70.67
78 Se #1	0.09777	0.09777	ug/l	18.17	100.00		37.67	43.67	47.33
88 Sr #3	39.45	39.45	ug/l	0.37	1800.00		948858.50	942641.88	943013.00
95 Mo #3	0.6662	0.6662	ug/l	7.08	1800.00		2716.94	2573.61	2383.55
107 Ag #3	0.1104	0.1104	ug/l	11.45	100.00		1320.09	1096.74	1333.43
111 Cd #3	0.007021	0.007021	ug/l	64.91	100.00		19.40	12.77	32.81
118 Sn #3	-0.04319	-0.04319	ug/l	5.96	1800.00		363.35	376.68	343.35
121 Sb #3	0.09601	0.09601	ug/l	5.26	100.00		793.38	873.38	856.72
137 Ba #3	2.827	2.827	ug/l	2.44	1800.00		10270.04	10750.37	10486.87
202 Hg #3	-0.0157	-0.0157	ug/l	9.31	5.00		69.33	61.00	68.00
205 Tl #3	-0.005089	-0.005089	ug/l	5.34	20.00		60.00	46.67	53.34
208 Pb #3	0.2022	0.2022	ug/l	0.17	1800.00		7777.67	7677.65	7790.98
232 Th #3	0.01035	0.01035	ug/l	24.10	#VALUE!		640.05	490.02	510.03
238 U #3	0.0008773	0.0008773	ug/l	25.65	#VALUE!		56.67	56.67	43.33

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	392079.38	0.53	442436.88	88.6	60 - 125		393520.56	393033.53	389684.00
45 Sc #1	417781.53	2.88	456299.72	91.6	60 - 125		405055.19	419296.63	428992.84
45 Sc #3	705117.25	0.42	765061.25	92.2	60 - 125		707067.38	701746.13	706538.19
74 Ge #1	140467.52	1.50	153441.28	91.5	60 - 125		138043.86	141739.88	141618.78
74 Ge #2	41835.28	0.63	47804.94	87.5	60 - 125		41700.85	42137.51	41667.48
74 Ge #3	209166.59	0.33	224564.78	93.1	60 - 125		209853.53	209155.58	208490.70
89 Y #3	1232448.40	0.59	1302847.50	94.6	60 - 125		1239312.80	1233140.90	1224891.10
115 In #3	1242031.50	0.34	1366177.60	90.9	60 - 125		1240910.40	1238492.10	1246692.10
159 Tb #3	1742302.00	0.68	2052817.90	84.9	60 - 125		1746652.10	1728938.90	1751314.50
209 Bi #3	1053586.30	0.71	1405468.50	75.0	60 - 125		1060268.40	1054985.60	1045504.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\211SMPL.D\211SMPL.D#
 Date Acquired: Aug 27 2014 06:20 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-58-a
 Misc Info: DW
 Vial Number: 2211
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002676	0.002676	ug/l	86.77	100.00		3.33	3.33	10.00
11 B # 3	13.59	13.59	ug/l	3.38	1800.00		20511.23	20574.64	20651.35
23 Na # 1	7242	7242	ug/l	0.34	81000.00		22632598.00	22781094.00	22814696.00
24 Mg # 1	4232	4232	ug/l	0.30	81000.00		9228748.00	9282452.00	9351865.00
27 Al # 1	30.13	30.13	ug/l	0.44	81000.00		79554.74	80176.87	80147.02
39 K # 2	1133	1133	ug/l	0.49	81000.00		366060.16	367224.41	370733.13
40 Ca # 1	16200	16200	ug/l	1.05	81000.00		96654424.00	98641544.00	97816424.00
47 Ti # 3	0.654	0.654	ug/l	6.59	1620.00		736.70	866.71	786.71
51 V # 2	9.269	9.269	ug/l	0.92	1800.00		22773.91	23094.30	22751.66
52 Cr # 2	0.108	0.108	ug/l	3.76	1800.00		631.13	614.46	626.68
55 Mn # 3	0.3237	0.3237	ug/l	4.01	1800.00		7431.70	7024.85	7171.56
56 Fe # 1	11.05	11.05	ug/l	1.22	81000.00		89558.41	91628.48	91852.80
59 Co # 3	0.0258	0.0258	ug/l	4.16	1800.00		410.02	410.02	430.02
60 Ni # 2	0.7961	0.7961	ug/l	3.00	1800.00		932.26	934.48	895.59
63 Cu # 2	4.274	4.274	ug/l	0.81	1800.00		13222.60	13379.37	13223.71
66 Zn # 3	10.54	10.54	ug/l	1.74	1800.00		21035.87	21770.05	21546.44
75 As # 2	0.1816	0.1816	ug/l	4.04	100.00		73.00	73.33	69.67
78 Se # 1	0.09699	0.09699	ug/l	12.12	100.00		39.33	41.67	45.00
88 Sr # 3	39.3	39.3	ug/l	2.55	1800.00		939109.56	938104.56	946343.31
95 Mo # 3	0.5122	0.5122	ug/l	10.70	1800.00		2070.19	1820.15	2113.53
107 Ag # 3	-0.002598	-0.002598	ug/l	91.65	100.00		86.67	116.67	63.34
111 Cd # 3	0.004942	0.004942	ug/l	132.03	100.00		16.21	32.93	2.87
118 Sn # 3	-0.03871	-0.03871	ug/l	11.87	1800.00		383.35	376.68	423.35
121 Sb # 3	0.1009	0.1009	ug/l	10.19	100.00		966.72	826.71	866.71
137 Ba # 3	2.499	2.499	ug/l	1.26	1800.00		9212.71	9492.94	9322.79
202 Hg # 3	-0.01689	-0.01689	ug/l	10.36	5.00		60.33	61.67	68.00
205 Tl # 3	-0.004265	-0.004265	ug/l	9.58	20.00		66.67	70.00	83.34
208 Pb # 3	1.149	1.149	ug/l	2.03	1800.00		38642.75	38496.04	38356.03
232 Th # 3	-3E-006	-3E-006	ug/l	40460.00	#VALUE!		223.34	280.01	180.01
238 U # 3	0.002829	0.002829	ug/l	16.31	#VALUE!		116.67	110.00	130.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	398322.41	2.96	442436.88	90.0	60 - 125		393738.69	411731.25	389497.34
45 Sc # 1	406768.84	0.45	456299.72	89.1	60 - 125		405581.44	405844.34	408880.69
45 Sc # 3	718228.81	5.31	765061.25	93.9	60 - 125		711127.19	759386.13	684173.00
74 Ge # 1	138282.80	0.07	153441.28	90.1	60 - 125		138193.92	138262.70	138391.75
74 Ge # 2	42225.40	0.74	47804.94	88.3	60 - 125		41867.92	42363.48	42444.78
74 Ge # 3	209835.56	0.81	224564.78	93.4	60 - 125		209805.00	211556.69	208144.98
89 Y # 3	1233015.30	2.16	1302847.50	94.6	60 - 125		1226253.50	1262436.40	1210355.90
115 In # 3	1249850.30	2.35	1366177.60	91.5	60 - 125		1235835.90	1283596.50	1230118.60
159 Tb # 3	1758640.80	2.02	2052817.90	85.7	60 - 125		1745193.50	1798865.60	1731863.40
209 Bi # 3	1082216.10	4.75	1405468.50	77.0	60 - 125		1070297.10	1138501.50	1037849.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\212SMPL.D\212SMPL.D#
 Date Acquired: Aug 27 2014 06:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-57-a
 Misc Info: DW
 Vial Number: 2212
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002086	0.002086	ug/l	55.56	100.00		3.33	3.33	6.67
11 B #3	13.82	13.82	ug/l	0.65	1800.00		20204.23	20351.09	20207.55
23 Na #1	7155	7155	ug/l	0.60	81000.00		22075616.00	21857636.00	21915802.00
24 Mg #1	4215	4215	ug/l	0.56	81000.00		9030598.00	9068452.00	9008867.00
27 Al #1	7.854	7.854	ug/l	0.96	81000.00		21625.95	21352.20	21335.68
39 K #2	1203	1203	ug/l	9.98	81000.00		355139.09	358484.19	357255.09
40 Ca #1	16130	16130	ug/l	0.18	81000.00		95069944.00	94676208.00	95321688.00
47 Ti #3	0.6347	0.6347	ug/l	9.48	1620.00		823.38	736.70	703.37
51 V #2	5.011	5.011	ug/l	11.18	1800.00		11508.07	11379.09	11320.17
52 Cr #2	0.07144	0.07144	ug/l	19.81	1800.00		458.90	458.90	501.12
55 Mn #3	6.298	6.298	ug/l	0.74	1800.00		113333.48	112457.94	112508.11
56 Fe #1	379.5	379.5	ug/l	0.15	81000.00		2913306.30	2916467.80	2933030.30
59 Co #3	0.1431	0.1431	ug/l	6.87	1800.00		2126.85	1913.49	1903.49
60 Ni #2	30.24	30.24	ug/l	10.49	1800.00		30555.14	30313.72	30436.10
63 Cu #2	28.6	28.6	ug/l	9.86	1800.00		78972.89	79339.30	79410.35
66 Zn #3	72.12	72.12	ug/l	1.07	1800.00		142201.91	140540.00	140216.94
75 As #2	0.2074	0.2074	ug/l	13.93	100.00		73.00	68.00	79.67
78 Se #1	0.1273	0.1273	ug/l	11.21	100.00		46.00	52.00	46.67
88 Sr #3	37.79	37.79	ug/l	3.05	1800.00		873138.44	872757.00	914643.31
95 Mo #3	0.5186	0.5186	ug/l	6.08	1800.00		1970.17	1896.82	2103.52
107 Ag #3	-0.0007664	-0.0007664	ug/l	280.92	100.00		116.67	120.00	80.00
111 Cd #3	0.02237	0.02237	ug/l	24.95	100.00		46.23	69.59	49.54
118 Sn #3	0.8733	0.8733	ug/l	1.50	1800.00		6671.47	6804.87	6554.76
121 Sb #3	0.7327	0.7327	ug/l	1.45	100.00		5974.53	6207.94	6104.60
137 Ba #3	3.158	3.158	ug/l	0.78	1800.00		11497.53	11770.99	11480.88
202 Hg #3	-0.01358	-0.01358	ug/l	28.00	5.00		59.67	80.67	74.34
205 Tl #3	-0.001133	-0.001133	ug/l	90.29	20.00		170.01	123.34	143.34
208 Pb #3	60.51	60.51	ug/l	0.50	1800.00		1933934.80	1932538.90	1929888.80
232 Th #3	0.003279	0.003279	ug/l	15.05	#VALUE!		330.01	306.68	333.35
238 U #3	0.001899	0.001899	ug/l	48.04	#VALUE!		70.00	66.67	120.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	385843.47	0.29	442436.88	87.2	60 - 125		387104.47	385395.81	385030.03
45 Sc #1	397319.66	0.24	456299.72	87.1	60 - 125		396899.97	396630.72	398428.38
45 Sc #3	698206.50	0.22	765061.25	91.3	60 - 125		698803.56	696444.44	699371.63
74 Ge #1	135378.28	0.29	153441.28	88.2	60 - 125		135138.78	135158.81	135837.25
74 Ge #2	38899.20	9.58	47804.94	81.4	60 - 125		34614.40	40677.46	41405.73
74 Ge #3	206417.98	0.36	224564.78	91.9	60 - 125		205820.92	206175.47	207257.58
89 Y #3	1207963.00	0.36	1302847.50	92.7	60 - 125		1208393.90	1212092.90	1203402.30
115 In #3	1226771.30	0.63	1366177.60	89.8	60 - 125		1222302.80	1235635.90	1222375.10
159 Tb #3	1730685.90	0.51	2052817.90	84.3	60 - 125		1726252.30	1740894.50	1724911.00
209 Bi #3	1051826.50	0.40	1405468.50	74.8	60 - 125		1047530.50	1055908.40	1052040.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures
 0 : ISTD Failures

0 : Max. Number of Failures Allowed
 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\213SMPL.D\213SMPL.D#
 Date Acquired: Aug 27 2014 06:35 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-61-a
 Misc Info: DW
 Vial Number: 2301
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.0007553	0.0007553	ug/l	305.84	100.00		0.00	6.67	0.00
11 B #3	13.63	13.63	ug/l	2.08	1800.00		20154.15	19550.22	20394.31
23 Na #1	8220	8220	ug/l	0.60	81000.00		24756106.00	24904676.00	24960484.00
24 Mg #1	4281	4281	ug/l	0.90	81000.00		8983196.00	9066212.00	9121102.00
27 Al #1	10.75	10.75	ug/l	1.88	81000.00		27947.45	28451.54	28898.93
39 K #2	1139	1139	ug/l	0.72	81000.00		355784.78	358813.22	361958.06
40 Ca #1	16700	16700	ug/l	0.41	81000.00		96786088.00	97035256.00	97296504.00
47 Ti #3	0.5348	0.5348	ug/l	14.01	1620.00		710.03	563.36	676.70
51 V #2	5.25	5.25	ug/l	0.60	1800.00		12705.49	12580.97	12685.49
52 Cr #2	0.06049	0.06049	ug/l	12.76	1800.00		444.45	468.90	493.34
55 Mn #3	24.04	24.04	ug/l	0.39	1800.00		427611.28	424796.88	426816.66
56 Fe #1	117.9	117.9	ug/l	0.88	81000.00		892508.31	895808.75	906573.75
59 Co #3	0.08632	0.08632	ug/l	5.93	1800.00		1160.07	1200.08	1300.09
60 Ni #2	362.9	362.9	ug/l	0.29	1800.00		384971.00	385079.84	390158.59
63 Cu #2	10.83	10.83	ug/l	0.90	1800.00		31910.85	32136.88	32087.85
66 Zn #3	634.4	634.4	ug/l	0.33	1800.00		1233550.90	1230445.30	1240912.40
75 As #2	0.1389	0.1389	ug/l	4.62	100.00		58.67	55.67	55.33
78 Se #1	0.1085	0.1085	ug/l	2.50	100.00		44.67	43.00	43.67
88 Sr #3	38.92	38.92	ug/l	3.61	1800.00		884947.50	934458.94	928604.38
95 Mo #3	0.5145	0.5145	ug/l	5.98	1800.00		2070.19	1870.15	2033.50
107 Ag #3	-0.0004144	-0.0004144	ug/l	254.83	100.00		96.67	116.67	116.67
111 Cd #3	2.39	2.39	ug/l	2.60	100.00		5157.12	5233.88	5487.25
118 Sn #3	-0.02761	-0.02761	ug/l	24.86	1800.00		463.35	516.69	423.35
121 Sb #3	0.1559	0.1559	ug/l	3.78	100.00		1363.43	1356.76	1290.09
137 Ba #3	2.349	2.349	ug/l	1.06	1800.00		8519.05	8779.20	8782.50
202 Hg #3	-0.0152	-0.0152	ug/l	24.43	5.00		55.33	72.67	74.00
205 Tl #3	-0.001775	-0.001775	ug/l	45.60	20.00		120.00	120.01	153.34
208 Pb #3	7.83	7.83	ug/l	0.14	1800.00		251376.66	252453.38	252363.28
232 Th #3	0.009606	0.009606	ug/l	9.40	#VALUE!		536.69	536.70	493.36
238 U #3	0.001592	0.001592	ug/l	31.02	#VALUE!		83.34	56.67	86.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	386421.25	0.36	442436.88	87.3	60 - 125		386084.94	385236.09	387942.69
45 Sc #1	392096.50	0.23	456299.72	85.9	60 - 125		392935.94	391117.53	392236.13
45 Sc #3	696216.25	0.95	765061.25	91.0	60 - 125		691259.81	693706.31	703682.56
74 Ge #1	135212.16	0.51	153441.28	88.1	60 - 125		136011.19	134790.94	134834.36
74 Ge #2	40961.80	0.79	47804.94	85.7	60 - 125		40895.76	40675.18	41314.45
74 Ge #3	206321.58	0.64	224564.78	91.9	60 - 125		206729.16	204846.97	207388.56
89 Y #3	1211564.00	0.82	1302847.50	93.0	60 - 125		1219489.60	1200484.80	1214717.50
115 In #3	1236524.50	0.76	1366177.60	90.5	60 - 125		1226289.10	1238382.10	1244902.30
159 Tb #3	1737489.60	0.17	2052817.90	84.6	60 - 125		1734550.10	1737500.80	1740418.10
209 Bi #3	1052022.00	0.67	1405468.50	74.9	60 - 125		1047998.50	1047946.30	1060121.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\214SMPL.D\214SMPL.D#
 Date Acquired: Aug 27 2014 06:42 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-73-a
 Misc Info: DW
 Vial Number: 2302
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001419	0.001419	ug/l	141.30	100.00		6.67	0.00	3.33
11 B #3	13.51	13.51	ug/l	2.18	1800.00		19450.09	19743.70	20441.18
23 Na #1	8829	8829	ug/l	0.95	81000.00		26534790.00	26661162.00	26323402.00
24 Mg #1	5356	5356	ug/l	0.77	81000.00		11330516.00	11218073.00	11184425.00
27 Al #1	6.077	6.077	ug/l	1.97	81000.00		16253.97	16774.41	16677.63
39 K #2	1122	1122	ug/l	3.80	81000.00		362276.19	362841.13	361547.72
40 Ca #1	16900	16900	ug/l	0.33	81000.00		97728304.00	97335880.00	97378128.00
47 Ti #3	0.239	0.239	ug/l	3.58	1620.00		333.35	343.35	353.35
51 V #2	2.311	2.311	ug/l	6.64	1800.00		5888.75	5953.22	5628.67
52 Cr #2	0.0326	0.0326	ug/l	18.08	1800.00		408.90	388.90	396.67
55 Mn #3	12.37	12.37	ug/l	0.64	1800.00		220197.83	219161.22	222229.16
56 Fe #1	533.5	533.5	ug/l	0.52	81000.00		4013998.30	4029837.50	4015655.80
59 Co #3	0.1128	0.1128	ug/l	0.97	1800.00		1583.45	1566.78	1583.45
60 Ni #2	2.272	2.272	ug/l	4.12	1800.00		2551.31	2516.86	2509.08
63 Cu #2	12.69	12.69	ug/l	4.20	1800.00		38502.24	38544.59	38081.40
66 Zn #3	3193	3193	ug/l	0.22	1800.00	Fail	6187835.00	6246226.50	6248111.50
75 As #2	0.1201	0.1201	ug/l	11.87	100.00		52.00	54.67	49.00
78 Se #1	0.1015	0.1015	ug/l	13.14	100.00		45.33	39.33	41.67
88 Sr #3	40.61	40.61	ug/l	1.73	1800.00		931357.69	964275.81	973656.44
95 Mo #3	0.6776	0.6776	ug/l	6.31	1800.00		2463.58	2750.29	2466.91
107 Ag #3	-0.004249	-0.004249	ug/l	29.47	100.00		56.67	70.00	83.34
111 Cd #3	76.9	76.9	ug/l	0.62	100.00		167251.83	168106.38	169358.47
118 Sn #3	0.06383	0.06383	ug/l	17.47	1800.00		1090.07	1166.74	1016.73
121 Sb #3	0.07493	0.07493	ug/l	5.67	100.00		636.70	696.70	630.03
137 Ba #3	2.415	2.415	ug/l	0.61	1800.00		8669.14	8922.58	8925.94
202 Hg #3	-0.00576	-0.00576	ug/l	142.93	5.00		80.34	81.00	120.35
205 Tl #3	0.03345	0.03345	ug/l	6.34	20.00		903.39	1013.40	973.40
208 Pb #3	24.73	24.73	ug/l	0.49	1800.00		790917.94	798336.13	800291.38
232 Th #3	0.009938	0.009938	ug/l	10.99	#VALUE!		540.03	553.36	493.36
238 U #3	0.000106	0.000106	ug/l	94.25	#VALUE!		26.67	23.33	30.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	386363.88	0.61	442436.88	87.3	60 - 125		384328.63	385818.44	388944.56
45 Sc #1	389132.34	0.31	456299.72	85.3	60 - 125		389350.97	387826.34	390219.72
45 Sc #3	688889.19	0.46	765061.25	90.0	60 - 125		685247.63	690641.25	690778.88
74 Ge #1	135190.39	0.59	153441.28	88.1	60 - 125		134565.83	134910.55	136094.78
74 Ge #2	41992.87	3.57	47804.94	87.8	60 - 125		41298.80	40964.74	43715.06
74 Ge #3	206806.45	0.61	224564.78	92.1	60 - 125		205447.36	207006.56	207965.42
89 Y #3	1211898.40	0.66	1302847.50	93.0	60 - 125		1204228.60	1211357.00	1220109.80
115 In #3	1222918.50	1.08	1366177.60	89.5	60 - 125		1207766.50	1228946.00	1232043.00
159 Tb #3	1743980.60	0.61	2052817.90	85.0	60 - 125		1733960.10	1755085.80	1742895.80
209 Bi #3	1044509.30	0.74	1405468.50	74.3	60 - 125		1036246.90	1045591.10	1051689.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\215SMPL.D\215SMPL.D#
 Date Acquired: Aug 27 2014 06:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-74-a
 Misc Info: DW
 Vial Number: 2303
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	9.041E-005	9.041E-005	ug/l	1280.80	100.00		0.00	0.00	3.33
11 B #3	14.28	14.28	ug/l	1.10	1800.00		20411.06	20574.54	20968.32
23 Na #1	8259	8259	ug/l	1.26	81000.00		24956562.00	25075762.00	24784142.00
24 Mg #1	4321	4321	ug/l	0.37	81000.00		9130132.00	9088908.00	9144622.00
27 Al #1	30.11	30.11	ug/l	0.31	81000.00		76910.74	76576.12	77171.54
39 K #2	1163	1163	ug/l	1.15	81000.00		360974.03	369039.88	366819.06
40 Ca #1	16790	16790	ug/l	0.85	81000.00		96760720.00	97495168.00	97821608.00
47 Ti #3	0.6148	0.6148	ug/l	8.64	1620.00		783.37	706.70	683.37
51 V #2	8.367	8.367	ug/l	0.80	1800.00		20050.77	19926.23	20114.19
52 Cr #2	0.0997	0.0997	ug/l	8.26	1800.00		593.35	588.90	560.01
55 Mn #3	3.848	3.848	ug/l	1.08	1800.00		68098.34	70015.56	69694.34
56 Fe #1	309.9	309.9	ug/l	0.60	81000.00		2338539.00	2334036.30	2375848.30
59 Co #3	0.04709	0.04709	ug/l	3.67	1800.00		693.37	673.37	713.37
60 Ni #2	18.93	18.93	ug/l	1.02	1800.00		20248.92	20105.39	20213.32
63 Cu #2	17.71	17.71	ug/l	0.73	1800.00		52087.42	51841.28	52311.50
66 Zn #3	52.57	52.57	ug/l	1.33	1800.00		103017.21	101790.35	103205.16
75 As #2	0.1477	0.1477	ug/l	12.00	100.00		56.33	65.33	56.00
78 Se #1	0.1104	0.1104	ug/l	8.63	100.00		42.67	42.67	46.67
88 Sr #3	40.04	40.04	ug/l	1.40	1800.00		930388.63	932333.00	962773.75
95 Mo #3	0.533	0.533	ug/l	6.50	1800.00		2200.21	1980.17	1960.17
107 Ag #3	-0.0011	-0.0011	ug/l	202.27	100.00		76.67	116.67	113.34
111 Cd #3	0.01677	0.01677	ug/l	23.11	100.00		46.18	32.90	49.57
118 Sn #3	0.0643	0.0643	ug/l	18.91	1800.00		1196.75	1073.41	1030.06
121 Sb #3	0.1196	0.1196	ug/l	3.26	100.00		1070.07	1000.06	1013.39
137 Ba #3	3.758	3.758	ug/l	0.93	1800.00		13982.79	13695.91	13722.55
202 Hg #3	-0.02015	-0.02015	ug/l	17.00	5.00		61.67	43.33	53.67
205 Tl #3	-0.004429	-0.004429	ug/l	15.09	20.00		66.67	83.34	53.33
208 Pb #3	2.32	2.32	ug/l	1.26	1800.00		74050.33	75238.52	74714.31
232 Th #3	0.006756	0.006756	ug/l	11.95	#VALUE!		406.68	446.69	450.02
238 U #3	0.002834	0.002834	ug/l	46.82	#VALUE!		136.67	66.67	146.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	382139.03	0.46	442436.88	86.4	60 - 125		381380.03	380896.19	384140.81
45 Sc #1	391280.13	0.68	456299.72	85.8	60 - 125		391979.00	388329.44	393531.91
45 Sc #3	689175.25	0.40	765061.25	90.1	60 - 125		688192.50	687008.13	692325.19
74 Ge #1	134525.56	0.23	153441.28	87.7	60 - 125		134198.80	134552.44	134825.47
74 Ge #2	40920.23	0.97	47804.94	85.6	60 - 125		40609.56	40781.04	41370.08
74 Ge #3	205920.33	0.60	224564.78	91.7	60 - 125		204905.16	207307.88	205548.00
89 Y #3	1210364.50	0.74	1302847.50	92.9	60 - 125		1200685.00	1212066.00	1218342.30
115 In #3	1228981.50	0.78	1366177.60	90.0	60 - 125		1234809.80	1217884.80	1234250.10
159 Tb #3	1716604.10	1.25	2052817.90	83.6	60 - 125		1699126.90	1710208.90	1740476.50
209 Bi #3	1056241.00	0.34	1405468.50	75.2	60 - 125		1060076.40	1055820.40	1052826.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\216_CCV.D\216_CCV.D#
 Date Acquired: Aug 27 2014 06:57 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	47.9 ug/l	0.60	50.00	89.5 - 110		77793.73	77619.56	77358.63
11 B	93.89 ug/l	0.72	100.00	89.5 - 110		121264.34	120760.75	122748.70
23 Na	5194 ug/l	0.75	5000.00	89.5 - 110		15104150.00	15038756.00	15033543.00
24 Mg	5143 ug/l	0.32	5000.00	89.5 - 110		10382345.00	10435170.00	10394272.00
27 Al	533 ug/l	1.05	500.00	89.5 - 110		1277788.50	1270694.00	1294830.00
39 K	5083 ug/l	0.29	5000.00	89.5 - 110		1508921.60	1509996.40	1533158.90
40 Ca	5354 ug/l	0.83	5000.00	89.5 - 110		29865726.00	29644532.00	29810596.00
47 Ti	51.06 ug/l	1.08	50.00	89.5 - 110		50371.31	49976.86	50956.31
51 V	49.53 ug/l	0.65	50.00	89.5 - 110		114133.23	114661.68	114448.07
52 Cr	49.05 ug/l	0.10	50.00	89.5 - 110		136544.73	136911.67	138458.36
55 Mn	512 ug/l	0.60	500.00	89.5 - 110		8725044.00	8759917.00	8799450.00
56 Fe	5427 ug/l	1.00	5000.00	89.5 - 110		39598288.00	39308608.00	39194216.00
59 Co	50.05 ug/l	0.69	50.00	89.5 - 110		648247.19	646691.88	650309.81
60 Ni	50.21 ug/l	1.55	50.00	89.5 - 110		52050.48	52574.16	51539.07
63 Cu	49 ug/l	0.59	50.00	89.5 - 110		139467.84	139489.30	139777.91
66 Zn	45.39 ug/l	1.18	50.00	89.5 - 110		86034.35	85344.20	86670.45
75 As	48.78 ug/l	0.84	50.00	89.5 - 110		14718.59	14865.04	14760.29
78 Se	46.68 ug/l	0.63	50.00	89.5 - 110		10521.06	10529.04	10683.47
88 Sr	48.55 ug/l	1.54	50.00	89.5 - 110		1136425.90	1141948.40	1121834.10
95 Mo	50.42 ug/l	0.36	50.00	89.5 - 110		179023.72	181364.00	182080.63
107 Ag	47.95 ug/l	0.06	50.00	89.5 - 110		478036.97	480635.78	483371.66
111 Cd	46.74 ug/l	0.46	50.00	89.5 - 110		100260.73	101721.55	101657.72
118 Sn	48.69 ug/l	0.33	50.00	89.5 - 110		330060.63	332890.09	332847.66
121 Sb	47.05 ug/l	0.29	50.00	89.5 - 110		382140.25	382574.53	387080.19
137 Ba	48.51 ug/l	0.30	50.00	89.5 - 110		174573.31	174564.08	176059.03
202 Hg	2.458 ug/l	1.27	2.50	89.5 - 110		6714.09	6808.46	6894.83
205 Tl	9.21 ug/l	0.42	10.00	89.5 - 110		211657.14	212447.67	213793.22
208 Pb	46.15 ug/l	0.64	50.00	89.5 - 110		1441284.40	1455737.90	1456892.60

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	374495.34	0.33	442436.88	84.6	60 - 125		373162.50	374743.69	375579.84
45 Sc	374937.13	0.49	456299.72	82.2	60 - 125		372851.78	376286.78	375672.81
45 Sc	669957.31	0.34	765061.25	87.6	60 - 125		667409.19	671779.88	670683.00
74 Ge	130456.83	0.24	153441.28	85.0	60 - 125		130204.70	130354.55	130811.21
74 Ge	39825.61	0.71	47804.94	83.3	60 - 125		39582.91	39757.63	40136.29
74 Ge	199633.61	0.46	224564.78	88.9	60 - 125		198977.17	200691.95	199231.75
89 Y	1201452.10	0.82	1302847.50	92.2	60 - 125		1208975.10	1190269.60	1205111.50
115 In	1210445.90	0.61	1366177.60	88.6	60 - 125		1203147.10	1210243.10	1217947.60
159 Tb	1704133.30	0.22	2052817.90	83.0	60 - 125		1704404.50	1700292.00	1707703.10
209 Bi	1022014.70	0.22	1405468.50	72.7	60 - 125		1021014.30	1020469.40	1024560.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\217_CCB.D\217_CCB.D#
 Date Acquired: Aug 27 2014 07:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.01115	0.01115	ug/l	38.27	#VALUE!		16.67	26.67	13.33
11 B #3	1.559	1.559	ug/l	4.91	#VALUE!		3920.50	4143.89	3990.51
23 Na #1	-10.68	-10.68	ug/l	2.71	#VALUE!		49634.37	47997.07	49196.50
24 Mg #1	0.4588	0.4588	ug/l	17.23	#VALUE!		1763.46	1723.46	2003.54
27 Al #1	0.4045	0.4045	ug/l	2.01	#VALUE!		2373.54	2333.54	2313.54
39 K #2	-10.08	-10.08	ug/l	16.50	#VALUE!		7731.80	8175.32	8018.59
40 Ca #1	2.309	2.309	ug/l	3.94	#VALUE!		34612.33	33824.01	34629.01
47 Ti #3	-0.04552	-0.04552	ug/l	30.14	#VALUE!		50.00	40.00	66.67
51 V #2	0.005087	0.005087	ug/l	112.11	#VALUE!		200.00	206.67	210.00
52 Cr #2	-0.005722	-0.005722	ug/l	120.34	#VALUE!		242.23	251.12	290.00
55 Mn #3	0.09521	0.09521	ug/l	15.98	#VALUE!		3213.71	2796.95	2833.63
56 Fe #1	1.246	1.246	ug/l	3.86	#VALUE!		12838.06	12347.80	12964.87
59 Co #3	0.006713	0.006713	ug/l	45.20	#VALUE!		190.01	140.01	116.67
60 Ni #2	0.04072	0.04072	ug/l	30.50	#VALUE!		68.89	78.89	102.22
63 Cu #2	-0.04201	-0.04201	ug/l	26.33	#VALUE!		253.34	228.89	265.56
66 Zn #3	0.09086	0.09086	ug/l	21.08	#VALUE!		756.70	756.71	710.03
75 As #2	0.02629	0.02629	ug/l	49.79	#VALUE!		21.67	17.00	21.33
78 Se #1	-0.03733	-0.03733	ug/l	6.81	#VALUE!		9.67	8.67	9.67
88 Sr #3	0.007416	0.007416	ug/l	23.65	#VALUE!		343.35	336.68	273.34
95 Mo #3	0.01806	0.01806	ug/l	17.69	#VALUE!		156.67	176.67	180.01
107 Ag #3	0.0006312	0.0006312	ug/l	340.46	#VALUE!		100.00	143.34	113.34
111 Cd #3	0.007481	0.007481	ug/l	43.64	#VALUE!		29.97	19.96	16.63
118 Sn #3	-0.01878	-0.01878	ug/l	24.96	#VALUE!		540.02	536.69	486.69
121 Sb #3	0.0207	0.0207	ug/l	15.51	#VALUE!		183.34	236.68	200.01
137 Ba #3	0.007136	0.007136	ug/l	53.80	#VALUE!		76.67	53.33	53.34
202 Hg #3	0.002511	0.002511	ug/l	123.74	#VALUE!		123.34	105.33	113.00
205 Tl #3	-0.001065	-0.001065	ug/l	160.00	#VALUE!		190.01	123.34	120.00
208 Pb #3	-0.01811	-0.01811	ug/l	12.16	#VALUE!		716.70	573.36	673.36

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	372017.84	0.47	442436.88	84.1	60 - 125		370153.00	373600.13	372300.34
45 Sc #1	374007.56	0.50	456299.72	82.0	60 - 125		375791.56	374137.59	372093.50
45 Sc #3	654487.63	0.50	765061.25	85.5	60 - 125		654838.88	651074.19	657549.81
74 Ge #1	131898.42	0.07	153441.28	86.0	60 - 125		131940.20	131964.92	131790.14
74 Ge #2	38429.62	8.18	47804.94	80.4	60 - 125		34801.36	40122.91	40364.59
74 Ge #3	199650.97	1.31	224564.78	88.9	60 - 125		197409.50	199024.31	202519.08
89 Y #3	1191631.00	0.80	1302847.50	91.5	60 - 125		1181184.00	1193820.30	1199888.60
115 In #3	1217772.60	0.67	1366177.60	89.1	60 - 125		1208359.00	1221872.60	1223086.10
159 Tb #3	1697481.00	0.91	2052817.90	82.7	60 - 125		1701875.40	1680332.00	1710235.60
209 Bi #3	1043013.90	0.24	1405468.50	74.2	60 - 125		1043902.10	1040160.40	1044979.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\218SMPL.D\218SMPL.D#
 Date Acquired: Aug 27 2014 07:12 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-29-a
 Misc Info: DW
 Vial Number: 2304
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002799	0.002799	ug/l	42.16	100.00		6.67	3.33	6.67
11 B #3	14.33	14.33	ug/l	2.08	1800.00		20731.42	20281.02	20884.95
23 Na #1	7951	7951	ug/l	6.53	81000.00		21959238.00	21901486.00	22225802.00
24 Mg #1	4678	4678	ug/l	6.58	81000.00		8990764.00	9035974.00	9152845.00
27 Al #1	6.415	6.415	ug/l	4.45	81000.00		16100.45	16330.67	15796.84
39 K #2	1105	1105	ug/l	1.02	81000.00		348541.56	352711.41	353504.22
40 Ca #1	17830	17830	ug/l	5.79	81000.00		94117640.00	95537384.00	95085048.00
47 Ti #3	0.6144	0.6144	ug/l	2.70	1620.00		716.70	710.03	746.70
51 V #2	2.053	2.053	ug/l	3.38	1800.00		5070.72	5257.46	5032.94
52 Cr #2	0.02853	0.02853	ug/l	6.33	1800.00		375.56	383.34	382.23
55 Mn #3	17.24	17.24	ug/l	0.92	1800.00		300969.84	305093.94	308070.06
56 Fe #1	143.9	143.9	ug/l	5.72	81000.00		997781.13	1007659.90	1003725.00
59 Co #3	0.5559	0.5559	ug/l	0.52	1800.00		7388.36	7545.06	7478.38
60 Ni #2	17.24	17.24	ug/l	1.17	1800.00		18679.48	18489.31	18561.60
63 Cu #2	39.71	39.71	ug/l	1.12	1800.00		117916.75	117098.16	117395.92
66 Zn #3	67.37	67.37	ug/l	1.24	1800.00		129905.83	130318.16	132910.73
75 As #2	0.1614	0.1614	ug/l	10.25	100.00		65.67	67.67	59.00
78 Se #1	0.1381	0.1381	ug/l	22.24	100.00		43.00	55.33	43.00
88 Sr #3	36.77	36.77	ug/l	2.09	1800.00		851246.56	859738.31	889850.69
95 Mo #3	0.4774	0.4774	ug/l	4.02	1800.00		1906.83	1903.50	1786.82
107 Ag #3	0.002986	0.002986	ug/l	54.05	100.00		156.67	153.34	126.67
111 Cd #3	0.04455	0.04455	ug/l	10.69	100.00		92.92	109.58	112.94
118 Sn #3	1.069	1.069	ug/l	0.63	1800.00		8092.14	8115.46	8202.22
121 Sb #3	0.4215	0.4215	ug/l	0.47	100.00		3560.47	3557.13	3593.82
137 Ba #3	1.818	1.818	ug/l	0.72	1800.00		6751.57	6734.87	6838.28
202 Hg #3	-0.01286	-0.01286	ug/l	40.25	5.00		68.00	91.67	64.00
205 Tl #3	-0.004446	-0.004446	ug/l	14.99	20.00		86.67	56.67	63.34
208 Pb #3	24.71	24.71	ug/l	1.29	1800.00		794691.56	798387.69	807313.44
232 Th #3	0.01726	0.01726	ug/l	7.27	#VALUE!		776.71	723.37	806.72
238 U #3	0.003833	0.003833	ug/l	24.33	#VALUE!		176.67	116.67	156.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	380577.38	0.75	442436.88	86.0	60 - 125		377297.44	382225.75	382208.94
45 Sc #1	359812.06	5.55	456299.72	78.9	60 - 125		367326.50	374918.97	337190.69
45 Sc #3	689466.13	0.56	765061.25	90.1	60 - 125		685407.44	689826.88	693164.06
74 Ge #1	125540.31	0.97	153441.28	81.8	60 - 125		125488.43	126780.23	124352.29
74 Ge #2	41329.67	1.08	47804.94	86.5	60 - 125		41156.28	40998.22	41834.52
74 Ge #3	205330.05	0.53	224564.78	91.4	60 - 125		204178.91	206360.98	205450.25
89 Y #3	1213404.30	0.28	1302847.50	93.1	60 - 125		1212168.30	1210818.50	1217226.10
115 In #3	1243389.00	0.14	1366177.60	91.0	60 - 125		1241617.00	1243446.40	1245103.60
159 Tb #3	1753473.10	0.59	2052817.90	85.4	60 - 125		1753395.80	1763768.80	1743254.60
209 Bi #3	1059804.30	0.63	1405468.50	75.4	60 - 125		1054053.90	1058198.80	1067160.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\219SMPL.D\219SMPL.D#
 Date Acquired: Aug 27 2014 07:19 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-64-a
 Misc Info: DW
 Vial Number: 2305
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001365	0.001365	ug/l	246.59	100.00		10.00	0.00	0.00
11 B #3	14.86	14.86	ug/l	1.28	1800.00		22469.96	22046.21	22633.58
23 Na #1	8308	8308	ug/l	19.81	81000.00		26724952.00	25728846.00	27170456.00
24 Mg #1	4675	4675	ug/l	19.81	81000.00		10534295.00	10102680.00	10685277.00
27 Al #1	27.29	27.29	ug/l	21.72	81000.00		74073.01	70376.76	76702.95
39 K #2	1139	1139	ug/l	0.93	81000.00		370216.78	372556.50	374058.38
40 Ca #1	17770	17770	ug/l	20.64	81000.00		109952440.00	104503490.00	112435280.00
47 Ti #3	0.6714	0.6714	ug/l	9.88	1620.00		873.38	753.37	866.71
51 V #2	8.985	8.985	ug/l	0.23	1800.00		22442.44	22356.74	22179.88
52 Cr #2	0.1881	0.1881	ug/l	13.15	1800.00		805.58	950.03	845.58
55 Mn #3	0.6682	0.6682	ug/l	0.25	1800.00		13551.94	13752.03	13628.67
56 Fe #1	23.78	23.78	ug/l	20.59	81000.00		195158.09	187991.42	200152.91
59 Co #3	0.06799	0.06799	ug/l	8.56	1800.00		1053.39	1056.73	916.72
60 Ni #2	46.66	46.66	ug/l	0.26	1800.00		51839.97	51833.22	51236.01
63 Cu #2	34.15	34.15	ug/l	0.98	1800.00		105356.16	103385.19	103080.10
66 Zn #3	551.8	551.8	ug/l	0.67	1800.00		1099289.90	1115847.00	1121290.30
75 As #2	0.1787	0.1787	ug/l	8.85	100.00		73.33	66.00	75.33
78 Se #1	0.1103	0.1103	ug/l	28.09	100.00		45.33	45.00	48.33
88 Sr #3	42.82	42.82	ug/l	1.19	1800.00		1026658.50	1054887.90	1056892.80
95 Mo #3	0.5494	0.5494	ug/l	4.27	1800.00		2173.53	2253.54	2113.53
107 Ag #3	-0.001473	-0.001473	ug/l	232.86	100.00		93.34	70.00	143.34
111 Cd #3	0.03516	0.03516	ug/l	18.71	100.00		96.19	69.51	92.87
118 Sn #3	0.0009234	0.0009234	ug/l	754.60	1800.00		656.70	743.37	656.70
121 Sb #3	0.1676	0.1676	ug/l	8.85	100.00		1450.11	1606.80	1370.10
137 Ba #3	3.358	3.358	ug/l	1.37	1800.00		12728.44	12781.79	12811.89
202 Hg #3	-0.01488	-0.01488	ug/l	14.00	5.00		64.33	70.33	77.00
205 Tl #3	-0.002411	-0.002411	ug/l	63.17	20.00		156.67	120.00	83.34
208 Pb #3	2.695	2.695	ug/l	0.13	1800.00		90564.93	89561.16	91592.80
232 Th #3	0.01746	0.01746	ug/l	7.93	#VALUE!		833.38	796.71	750.04
238 U #3	0.003466	0.003466	ug/l	14.01	#VALUE!		150.01	150.01	123.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	399569.72	1.00	442436.88	90.3	60 - 125		396500.81	398130.88	404077.44
45 Sc #1	423762.44	17.61	456299.72	92.9	60 - 125		411903.97	503614.94	355768.44
45 Sc #3	732795.38	0.81	765061.25	95.8	60 - 125		735147.75	737183.75	726054.56
74 Ge #1	143441.98	13.16	153441.28	93.5	60 - 125		139996.02	163812.09	126517.87
74 Ge #2	42504.52	0.42	47804.94	88.9	60 - 125		42615.13	42598.41	42300.00
74 Ge #3	213597.28	0.59	224564.78	95.1	60 - 125		212274.08	214762.97	213754.78
89 Y #3	1257353.40	0.55	1302847.50	96.5	60 - 125		1250829.80	1256722.40	1264508.00
115 In #3	1272608.00	1.69	1366177.60	93.2	60 - 125		1249884.40	1275347.50	1292592.10
159 Tb #3	1797144.40	0.99	2052817.90	87.5	60 - 125		1797744.10	1778975.10	1814713.80
209 Bi #3	1085054.80	1.02	1405468.50	77.2	60 - 125		1088211.10	1072760.30	1094193.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 : Element Failures 0 : Max. Number of Failures Allowed
 0 : ISTD Failures 0 : Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\220_CCV.D\220_CCV.D#
 Date Acquired: Aug 27 2014 07:27 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be	48.76 ug/l	1.76	50.00	89.5 - 110		81900.33	80438.02	81468.38
11 B	96.19 ug/l	1.22	100.00	89.5 - 110		128576.77	128659.69	127049.73
23 Na	5199 ug/l	1.19	5000.00	89.5 - 110		15727056.00	16011956.00	15797520.00
24 Mg	5108 ug/l	0.71	5000.00	89.5 - 110		10856870.00	10922348.00	10807579.00
27 Al	526.8 ug/l	0.75	500.00	89.5 - 110		1323649.80	1336622.80	1333120.60
39 K	5101 ug/l	15.78	5000.00	89.5 - 110		1583688.80	1552811.00	1592422.90
40 Ca	5336 ug/l	0.47	5000.00	89.5 - 110		31114522.00	31246982.00	31215732.00
47 Ti	51.38 ug/l	1.30	50.00	89.5 - 110		52831.63	53389.84	52811.53
51 V	49.65 ug/l	17.39	50.00	89.5 - 110		118256.16	115198.47	122154.02
52 Cr	49.07 ug/l	17.06	50.00	89.5 - 110		142578.05	138007.80	145488.89
55 Mn	510.8 ug/l	0.10	500.00	89.5 - 110		8965483.00	9117255.00	9090161.00
56 Fe	5407 ug/l	0.38	5000.00	89.5 - 110		41435632.00	40948148.00	41312256.00
59 Co	50.05 ug/l	0.48	50.00	89.5 - 110		667196.13	673169.50	675540.75
60 Ni	50.36 ug/l	16.88	50.00	89.5 - 110		54515.20	52367.20	55076.89
63 Cu	49.11 ug/l	17.09	50.00	89.5 - 110		143979.55	141215.78	148706.36
66 Zn	45.12 ug/l	0.46	50.00	89.5 - 110		87853.05	88760.24	89215.52
75 As	49.15 ug/l	17.04	50.00	89.5 - 110		15357.44	15019.84	15815.50
78 Se	46.9 ug/l	0.47	50.00	89.5 - 110		11135.41	11120.07	11004.99
88 Sr	49.1 ug/l	1.54	50.00	89.5 - 110		1177435.80	1174668.60	1197935.30
95 Mo	50.51 ug/l	0.56	50.00	89.5 - 110		186165.52	187988.05	187745.98
107 Ag	48.3 ug/l	0.53	50.00	89.5 - 110		494961.50	499946.97	506728.75
111 Cd	46.92 ug/l	0.61	50.00	89.5 - 110		103762.46	104926.21	106518.66
118 Sn	48.63 ug/l	0.64	50.00	89.5 - 110		339697.25	341791.72	346863.16
121 Sb	46.93 ug/l	0.60	50.00	89.5 - 110		393452.38	395241.59	398945.41
137 Ba	48.78 ug/l	0.81	50.00	89.5 - 110		181437.64	181643.77	182849.55
202 Hg	2.448 ug/l	0.93	2.50	89.5 - 110		6974.87	6972.54	7068.25
205 Tl	9.172 ug/l	1.41	10.00	89.5 - 110		216154.19	219356.27	220951.73
208 Pb	46.1 ug/l	0.93	50.00	89.5 - 110		1493427.30	1488088.50	1512353.90

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li	385299.41	0.87	442436.88	87.1	60 - 125		381665.56	388260.63	385972.03
45 Sc	394171.13	0.25	456299.72	86.4	60 - 125		395144.22	393173.34	394195.75
45 Sc	699976.19	1.03	765061.25	91.5	60 - 125		693586.75	698534.69	707807.06
74 Ge	136088.06	0.23	153441.28	88.7	60 - 125		136419.14	136038.59	135806.45
74 Ge	41866.65	14.61	47804.94	87.6	60 - 125		41271.02	48260.85	36068.09
74 Ge	206868.45	0.99	224564.78	92.1	60 - 125		204534.22	208307.66	207763.48
89 Y	1240532.00	0.82	1302847.50	95.2	60 - 125		1231965.30	1251703.80	1237926.90
115 In	1251485.50	1.05	1366177.60	91.6	60 - 125		1236489.40	1257120.90	1260846.50
159 Tb	1760961.30	0.34	2052817.90	85.8	60 - 125		1767686.60	1755950.80	1759246.00
209 Bi	1051647.40	0.27	1405468.50	74.8	60 - 125		1049588.40	1050517.30	1054836.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\221_CCB.D\221_CCB.D#
 Date Acquired: Aug 27 2014 07:34 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00682	0.00682	ug/l	74.40	#VALUE!		20.00	3.33	13.33
11 B #3	1.599	1.599	ug/l	3.93	#VALUE!		4207.23	4193.91	4103.87
23 Na #1	-11.21	-11.21	ug/l	0.74	#VALUE!		49093.14	49009.57	48885.94
24 Mg #1	0.5273	0.5273	ug/l	7.43	#VALUE!		2106.84	1950.16	2043.49
27 Al #1	0.3666	0.3666	ug/l	0.89	#VALUE!		2323.53	2340.21	2306.88
39 K #2	-11.19	-11.19	ug/l	12.48	#VALUE!		8061.93	8085.28	8031.91
40 Ca #1	2.263	2.263	ug/l	3.33	#VALUE!		35166.63	35867.93	34645.82
47 Ti #3	-0.06475	-0.06475	ug/l	19.89	#VALUE!		43.33	40.00	20.00
51 V #2	-0.002929	-0.002929	ug/l	309.66	#VALUE!		204.45	207.78	180.00
52 Cr #2	-0.008528	-0.008528	ug/l	67.27	#VALUE!		257.78	258.89	282.23
55 Mn #3	0.09881	0.09881	ug/l	7.18	#VALUE!		2997.00	3006.99	3227.04
56 Fe #1	1.323	1.323	ug/l	1.66	#VALUE!		13935.54	13611.99	13578.60
59 Co #3	0.004177	0.004177	ug/l	2.92	#VALUE!		120.00	116.67	120.00
60 Ni #2	0.03509	0.03509	ug/l	20.19	#VALUE!		85.56	83.33	74.45
63 Cu #2	-0.0475	-0.0475	ug/l	21.87	#VALUE!		223.34	240.00	277.78
66 Zn #3	0.06497	0.06497	ug/l	22.83	#VALUE!		730.04	673.36	720.03
75 As #2	0.008319	0.008319	ug/l	20.93	#VALUE!		15.67	15.00	16.33
78 Se #1	-0.03458	-0.03458	ug/l	9.67	#VALUE!		9.33	10.67	10.67
88 Sr #3	0.008142	0.008142	ug/l	14.32	#VALUE!		343.35	363.35	316.68
95 Mo #3	0.01109	0.01109	ug/l	58.42	#VALUE!		133.34	136.67	176.67
107 Ag #3	-0.0004609	-0.0004609	ug/l	277.93	#VALUE!		96.67	110.00	123.34
111 Cd #3	0.003265	0.003265	ug/l	121.47	#VALUE!		19.97	3.30	16.63
118 Sn #3	-0.01758	-0.01758	ug/l	31.94	#VALUE!		576.69	543.36	500.02
121 Sb #3	0.02194	0.02194	ug/l	10.41	#VALUE!		213.34	206.67	243.34
137 Ba #3	0.01069	0.01069	ug/l	17.20	#VALUE!		70.00	73.34	83.34
202 Hg #3	0.005633	0.005633	ug/l	95.65	#VALUE!		124.34	141.00	111.67
205 Tl #3	-0.002264	-0.002264	ug/l	47.66	#VALUE!		123.34	143.34	93.34
208 Pb #3	-0.01755	-0.01755	ug/l	4.34	#VALUE!		673.36	716.70	680.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	381130.38	0.72	442436.88	86.1	60 - 125		381291.59	378298.50	383801.09
45 Sc #1	386331.50	0.69	456299.72	84.7	60 - 125		387803.22	387933.38	383257.88
45 Sc #3	670190.63	0.42	765061.25	87.6	60 - 125		666951.13	671862.31	671758.31
74 Ge #1	135342.30	0.46	153441.28	88.2	60 - 125		135555.69	135827.11	134644.11
74 Ge #2	40370.00	4.86	47804.94	84.4	60 - 125		41958.09	38179.32	40972.59
74 Ge #3	203991.63	0.28	224564.78	90.8	60 - 125		204148.72	203361.77	204464.39
89 Y #3	1215007.60	1.25	1302847.50	93.3	60 - 125		1210481.00	1202595.60	1231946.00
115 In #3	1242333.10	0.18	1366177.60	90.9	60 - 125		1241406.00	1240736.80	1244856.50
159 Tb #3	1744030.10	0.28	2052817.90	85.0	60 - 125		1742328.10	1740313.10	1749449.10
209 Bi #3	1073764.80	0.47	1405468.50	76.4	60 - 125		1067960.40	1075918.80	1077415.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed

0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\222SMPL.D\222SMPL.D#
 Date Acquired: Aug 27 2014 07:41 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: mb 680-345471_1-a
 Misc Info: DW
 Vial Number: 2306
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002715	0.002715	ug/l	83.83	100.00		3.33	3.33	10.00
11 B #3	1.647	1.647	ug/l	6.19	1800.00		4460.63	4280.58	4237.22
23 Na #1	-8.516	-8.516	ug/l	1.12	81000.00		57720.00	57703.46	58412.40
24 Mg #1	0.8299	0.8299	ug/l	4.59	81000.00		2716.93	2773.61	2633.59
27 Al #1	2.229	2.229	ug/l	2.28	81000.00		6914.74	7034.79	7181.56
39 K #2	-12.26	-12.26	ug/l	9.29	81000.00		7875.18	8398.77	7941.89
40 Ca #1	3.911	3.911	ug/l	3.03	81000.00		45328.20	45926.15	44917.19
47 Ti #3	-0.02551	-0.02551	ug/l	71.19	1620.00		56.67	73.34	93.34
51 V #2	0.02695	0.02695	ug/l	15.28	1800.00		277.78	267.78	291.12
52 Cr #2	-0.03672	-0.03672	ug/l	12.97	1800.00		183.34	207.78	192.23
55 Mn #3	0.06183	0.06183	ug/l	16.59	1800.00		2626.94	2293.54	2540.24
56 Fe #1	0.6892	0.6892	ug/l	3.49	81000.00		8989.10	9282.59	9082.48
59 Co #3	-0.0003776	-0.0003776	ug/l	229.32	1800.00		50.00	73.34	56.67
60 Ni #2	0.06365	0.06365	ug/l	24.56	1800.00		111.11	101.11	135.56
63 Cu #2	-0.04007	-0.04007	ug/l	10.72	1800.00		271.12	273.34	295.56
66 Zn #3	0.7768	0.7768	ug/l	5.12	1800.00		2210.20	2096.85	2070.18
75 As #2	0.02423	0.02423	ug/l	76.19	100.00		26.33	14.67	23.33
78 Se #1	-0.0531	-0.0531	ug/l	11.96	100.00		4.33	7.33	6.33
88 Sr #3	0.004327	0.004327	ug/l	39.36	1800.00		260.01	213.34	296.68
95 Mo #3	-0.01347	-0.01347	ug/l	56.47	1800.00		33.33	90.00	56.67
107 Ag #3	-0.002316	-0.002316	ug/l	26.34	100.00		86.67	93.34	100.00
111 Cd #3	0.002636	0.002636	ug/l	115.52	100.00		19.99	9.98	6.65
118 Sn #3	-0.04656	-0.04656	ug/l	2.77	1800.00		356.68	343.35	340.01
121 Sb #3	0.005747	0.005747	ug/l	11.16	100.00		86.67	93.34	83.34
137 Ba #3	0.01511	0.01511	ug/l	46.30	1800.00		70.00	90.00	123.34
202 Hg #3	-0.01411	-0.01411	ug/l	14.54	5.00		67.33	69.67	78.67
205 Tl #3	-0.004574	-0.004574	ug/l	9.48	20.00		76.67	66.67	56.67
208 Pb #3	-0.008595	-0.008595	ug/l	114.08	1800.00		766.70	856.93	1365.63
232 Th #3	0.01146	0.01146	ug/l	23.10	#VALUE!		706.71	570.03	583.36
238 U #3	0.001576	0.001576	ug/l	31.02	#VALUE!		96.67	76.67	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	389727.94	0.39	442436.88	88.1	60 - 125		387981.88	390737.06	390464.84
45 Sc #1	392688.81	0.40	456299.72	86.1	60 - 125		393185.69	390911.75	393968.91
45 Sc #3	681712.06	0.25	765061.25	89.1	60 - 125		679778.88	682648.13	682709.25
74 Ge #1	138181.31	0.57	153441.28	90.1	60 - 125		137630.48	137833.33	139080.14
74 Ge #2	42044.21	0.86	47804.94	87.9	60 - 125		42291.03	41628.38	42213.22
74 Ge #3	208772.03	0.45	224564.78	93.0	60 - 125		208215.33	209865.44	208235.31
89 Y #3	1240628.40	0.42	1302847.50	95.2	60 - 125		1236205.40	1239361.90	1246317.80
115 In #3	1275425.60	0.48	1366177.60	93.4	60 - 125		1275476.90	1269250.10	1281549.90
159 Tb #3	1775866.30	0.94	2052817.90	86.5	60 - 125		1758260.00	1791550.60	1777787.60
209 Bi #3	1125653.60	2.16	1405468.50	80.1	60 - 125		1098755.60	1132159.90	1146045.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\223SMPL.D\223SMPL.D#
 Data Acquired: Aug 27 2014 07:49 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: lcs 680-345471_2-a
 Misc Info: DW
 Vial Number: 2307
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	21.72	21.72	ug/l	0.73	100.00		37469.53	37165.67	37756.73
11 B #3	81.32	81.32	ug/l	2.19	1800.00		110843.07	111187.56	115214.73
23 Na #1	2155	2155	ug/l	0.38	81000.00		6685867.50	6730294.50	6688470.50
24 Mg #1	2156	2156	ug/l	0.57	81000.00		4644782.00	4633953.50	4651521.50
27 Al #1	2161	2161	ug/l	0.10	81000.00		5540176.50	5539051.00	5492876.00
39 K #2	2083	2083	ug/l	0.39	81000.00		672780.63	671171.56	674622.56
40 Ca #1	2279	2279	ug/l	0.53	81000.00		13448266.00	13555571.00	13499777.00
47 Ti #3	42.81	42.81	ug/l	1.08	1620.00		43895.22	44175.69	45024.53
51 V #2	41.01	41.01	ug/l	0.61	1800.00		100972.63	101045.40	102414.93
52 Cr #2	41.12	41.12	ug/l	0.73	1800.00		122900.33	122079.32	124923.52
55 Mn #3	212.4	212.4	ug/l	0.61	1800.00		3889151.50	3910399.00	3906969.50
56 Fe #1	2285	2285	ug/l	0.78	81000.00		17572242.00	17657844.00	17720312.00
59 Co #3	21.26	21.26	ug/l	0.50	1800.00		294797.81	295818.03	296396.91
60 Ni #2	42.31	42.31	ug/l	0.61	1800.00		46749.81	46844.47	47359.07
63 Cu #2	41.41	41.41	ug/l	0.85	1800.00		125624.64	126621.05	126840.27
66 Zn #3	43.36	43.36	ug/l	0.75	1800.00		87883.48	88576.45	88278.17
75 As #2	44.42	44.42	ug/l	0.88	100.00		14299.26	14408.00	14535.78
78 Se #1	45.91	45.91	ug/l	0.57	100.00		11087.71	11153.09	11156.42
88 Sr #3	41.03	41.03	ug/l	0.53	1800.00		1007888.30	999809.44	1018948.80
95 Mo #3	41.77	41.77	ug/l	1.12	1800.00		158573.78	159723.16	158926.91
107 Ag #3	-0.0007086	-0.0007086	ug/l	152.55	100.00		123.34	106.67	103.34
111 Cd #3	21.15	21.15	ug/l	1.32	100.00		48804.47	48636.56	48469.67
118 Sn #3	82.83	82.83	ug/l	0.48	1800.00		597222.31	597512.00	602783.25
121 Sb #3	20.68	20.68	ug/l	0.63	100.00		178170.78	179429.03	180167.34
137 Ba #3	40.29	40.29	ug/l	0.96	1800.00		154696.67	153917.14	154550.34
202 Hg #3	1.883	1.883	ug/l	0.59	5.00		5426.93	5500.96	5523.30
205 Tl #3	15.64	15.64	ug/l	0.41	20.00		375432.09	377418.78	380206.91
208 Pb #3	19.88	19.88	ug/l	0.38	1800.00		649641.38	655225.13	659931.25
232 Th #3	21.3	21.3	ug/l	2.88	#VALUE!		695572.19	701319.75	704082.75
238 U #3	20.73	20.73	ug/l	2.32	#VALUE!		709656.88	707722.69	712722.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	398757.75	1.15	442436.88	90.1	60 - 125		402182.03	393552.75	400538.50
45 Sc #1	399132.69	0.40	456299.72	87.5	60 - 125		399919.53	400192.47	397286.03
45 Sc #3	702603.31	0.25	765061.25	91.8	60 - 125		701333.00	701839.75	704637.25
74 Ge #1	139579.63	0.70	153441.28	91.0	60 - 125		138872.05	140700.22	139166.61
74 Ge #2	42644.15	0.62	47804.94	89.2	60 - 125		42730.95	42349.03	42852.47
74 Ge #3	214298.67	0.38	224564.78	95.4	60 - 125		214769.70	213357.16	214769.13
89 Y #3	1265427.40	0.46	1302847.50	97.1	60 - 125		1262981.90	1261285.00	1272015.30
115 In #3	1285424.90	1.01	1366177.60	94.1	60 - 125		1277256.60	1278681.40	1300336.90
159 Tb #3	1783287.90	1.01	2052817.90	86.9	60 - 125		1769024.40	1777237.90	1803601.00
209 Bi #3	1100295.30	2.39	1405468.50	78.3	60 - 125		1129060.30	1077648.90	1094176.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\224SMPL.D\224SMPL.D#
 Date Acquired: Aug 27 2014 07:56 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 1lcs 680-345471_3-a
 Misc Info: DW
 Vial Number: 2308
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.4294	0.4294	ug/l	4.86	100.00		710.03	773.37	713.37
11 B #3	22.3	22.3	ug/l	1.80	1800.00		31936.59	32571.03	31525.91
23 Na #1	47.45	47.45	ug/l	0.54	81000.00		231265.83	230580.20	230317.66
24 Mg #1	60.13	60.13	ug/l	0.47	81000.00		131049.03	130057.97	130222.81
27 Al #1	13.98	13.98	ug/l	2.56	81000.00		36799.29	38165.07	36575.41
39 K #2	41.55	41.55	ug/l	28.52	81000.00		25240.73	25370.82	24503.08
40 Ca #1	302.8	302.8	ug/l	0.80	81000.00		1803857.60	1828322.90	1811153.10
47 Ti #3	1.066	1.066	ug/l	3.07	1620.00		1190.08	1146.74	1213.41
51 V #2	1.072	1.072	ug/l	18.94	1800.00		2739.11	2924.70	2826.90
52 Cr #2	0.9854	0.9854	ug/l	19.31	1800.00		3079.17	3300.31	3271.43
55 Mn #3	2.234	2.234	ug/l	1.55	1800.00		41924.63	42074.70	41323.09
56 Fe #1	61.86	61.86	ug/l	0.26	81000.00		482630.19	479826.34	482172.44
59 Co #3	0.4198	0.4198	ug/l	2.36	1800.00		5927.78	5764.38	5737.72
60 Ni #2	0.3165	0.3165	ug/l	14.09	1800.00		413.34	392.23	381.12
63 Cu #2	1.026	1.026	ug/l	17.01	1800.00		3480.37	3531.48	3474.80
66 Zn #3	22.73	22.73	ug/l	0.85	1800.00		45586.92	46131.83	45694.21
75 As #2	1.138	1.138	ug/l	17.24	100.00		379.67	392.01	365.00
78 Se #1	0.5178	0.5178	ug/l	4.07	100.00		151.00	142.67	142.00
88 Sr #3	0.2144	0.2144	ug/l	3.00	1800.00		5340.94	5520.99	5174.24
95 Mo #3	1.106	1.106	ug/l	3.64	1800.00		4420.66	4177.29	4293.97
107 Ag #3	1.014	1.014	ug/l	2.29	100.00		11023.77	10690.20	10850.32
111 Cd #3	0.112	0.112	ug/l	8.07	100.00		255.70	285.76	245.73
118 Sn #3	1.713	1.713	ug/l	2.25	1800.00		13182.04	12905.18	12885.11
121 Sb #3	0.5421	0.5421	ug/l	4.05	100.00		4857.48	4540.73	4730.78
137 Ba #3	2.115	2.115	ug/l	1.18	1800.00		8005.47	8032.14	8248.90
202 Hg #3	0.08521	0.08521	ug/l	6.90	5.00		351.34	374.34	342.00
205 Tl #3	0.2095	0.2095	ug/l	2.15	20.00		5167.68	5374.41	5184.33
208 Pb #3	0.2807	0.2807	ug/l	2.03	1800.00		10348.34	10758.47	10461.71
232 Th #3	0.122	0.122	ug/l	5.90	#VALUE!		4610.86	4270.75	4197.38
238 U #3	0.004115	0.004115	ug/l	9.54	#VALUE!		186.67	156.67	166.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	393699.09	0.10	442436.88	89.0	60 - 125		393265.03	393751.13	394081.19
45 Sc #1	399140.50	0.18	456299.72	87.5	60 - 125		398923.69	398562.63	399935.19
45 Sc #3	690154.13	0.06	765061.25	90.2	60 - 125		690006.19	689831.88	690624.19
74 Ge #1	140505.63	0.10	153441.28	91.6	60 - 125		140372.41	140655.66	140488.81
74 Ge #2	42852.87	14.15	47804.94	89.6	60 - 125		48969.95	36846.57	42742.08
74 Ge #3	210894.70	0.62	224564.78	93.9	60 - 125		209681.97	210735.75	212266.41
89 Y #3	1246288.50	0.61	1302847.50	95.7	60 - 125		1253187.30	1247627.60	1238050.50
115 In #3	1278560.50	0.85	1366177.60	93.6	60 - 125		1266234.30	1282576.00	1286871.00
159 Tb #3	1785347.60	0.60	2052817.90	87.0	60 - 125		1773323.50	1788486.30	1794233.30
209 Bi #3	1130594.00	2.46	1405468.50	80.4	60 - 125		1135525.30	1100655.60	1155601.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\225SMPL.D\225SMPL.D#
 Date Acquired: Aug 27 2014 08:04 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-19-a
 Misc Info: DW
 Vial Number: 2309
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.004026	0.004026	ug/l	123.03	100.00		0.00	6.67	16.67
11 B # 3	15.1	15.1	ug/l	1.25	1800.00		22293.22	21789.35	22323.21
23 Na # 1	7462	7462	ug/l	0.13	81000.00		23172222.00	23173404.00	23074526.00
24 Mg # 1	4420	4420	ug/l	0.27	81000.00		9632777.00	9563892.00	9536295.00
27 Al # 1	14.08	14.08	ug/l	0.13	81000.00		37834.61	37670.27	37537.26
39 K # 2	1139	1139	ug/l	1.15	81000.00		364394.06	364451.28	370079.47
40 Ca # 1	17140	17140	ug/l	0.44	81000.00		102133910.00	102619690.00	101510990.00
47 Ti # 3	0.5745	0.5745	ug/l	9.32	1620.00		676.70	783.38	663.36
51 V # 2	4.401	4.401	ug/l	1.56	1800.00		10719.81	10828.75	11055.56
52 Cr # 2	0.05693	0.05693	ug/l	17.11	1800.00		460.01	445.57	498.90
55 Mn # 3	16.94	16.94	ug/l	0.66	1800.00		304839.69	305079.88	308978.13
56 Fe # 1	920.5	920.5	ug/l	0.09	81000.00		7168430.50	7157867.50	7142283.00
59 Co # 3	1.092	1.092	ug/l	1.97	1800.00		14989.78	14606.08	15246.66
60 Ni # 2	12.05	12.05	ug/l	1.36	1800.00		13280.39	13140.32	13050.22
63 Cu # 2	45.63	45.63	ug/l	1.01	1800.00		136678.30	135814.48	136997.39
66 Zn # 3	134.4	134.4	ug/l	0.65	1800.00		266623.41	264605.88	269015.91
75 As # 2	0.1655	0.1655	ug/l	7.14	100.00		61.67	67.67	69.33
78 Se # 1	0.1375	0.1375	ug/l	16.90	100.00		45.33	54.67	54.67
88 Sr # 3	40.68	40.68	ug/l	0.80	1800.00		981738.00	978551.94	988628.19
95 Mo # 3	0.3279	0.3279	ug/l	4.95	1800.00		1273.42	1403.43	1343.44
107 Ag # 3	0.003149	0.003149	ug/l	8.36	100.00		150.00	146.67	153.34
111 Cd # 3	0.08732	0.08732	ug/l	11.81	100.00		186.39	193.03	233.05
118 Sn # 3	1.118	1.118	ug/l	1.43	1800.00		8619.02	8495.63	8792.44
121 Sb # 3	0.3767	0.3767	ug/l	2.45	100.00		3267.08	3160.39	3337.09
137 Ba # 3	2.09	2.09	ug/l	1.39	1800.00		7768.64	7888.74	8125.52
202 Hg # 3	-0.01295	-0.01295	ug/l	24.52	5.00		79.67	65.00	80.34
205 Tl # 3	0.002287	0.002287	ug/l	35.51	20.00		236.68	210.01	246.68
208 Pb # 3	15.69	15.69	ug/l	0.94	1800.00		509692.59	511061.34	520768.22
232 Th # 3	0.07595	0.07595	ug/l	6.16	#VALUE!		2770.33	2533.61	2867.03
238 U # 3	0.005018	0.005018	ug/l	19.56	#VALUE!		166.67	193.34	226.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	389534.31	0.42	442436.88	88.0	60 - 125		388836.22	388356.13	391410.56
45 Sc # 1	401664.00	0.27	456299.72	88.0	60 - 125		402741.16	401712.03	400538.84
45 Sc # 3	713001.31	1.72	765061.25	93.2	60 - 125		700516.94	724965.06	713521.94
74 Ge # 1	137906.72	0.37	153441.28	89.9	60 - 125		138463.45	137452.53	137804.14
74 Ge # 2	41817.74	0.64	47804.94	87.5	60 - 125		41558.22	42090.63	41804.38
74 Ge # 3	209991.67	0.20	224564.78	93.5	60 - 125		210142.50	209522.89	210309.63
89 Y # 3	1243662.80	1.28	1302847.50	95.5	60 - 125		1245370.80	1226997.00	1258620.90
115 In # 3	1266665.90	0.91	1366177.60	92.7	60 - 125		1255920.60	1265296.50	1278780.40
159 Tb # 3	1771982.30	1.05	2052817.90	86.3	60 - 125		1750577.60	1781456.40	1783912.50
209 Bi # 3	1098476.50	2.79	1405468.50	78.2	60 - 125		1132798.10	1073772.60	1088858.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICFMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\226SMPL.D\226SMPL.D#
 Date Acquired: Aug 27 2014 08:11 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-19-aSD
 Misc Info: DW 1/5
 Vial Number: 2310
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 5.00
 Autodil Factor: Undiluted
 Final Dil Factor: 5.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.01374	0.002748	ug/l	111.10	100.00		10.00	6.67	0.00
11 B #3	17.405	3.481	ug/l	6.47	1800.00		6624.65	7034.80	6948.10
23 Na #1	7590	1518	ug/l	0.68	81000.00		4673330.00	4717111.50	4725436.00
24 Mg #1	4636.5	927.3	ug/l	1.03	81000.00		1974803.10	1975298.50	1993273.90
27 Al #1	22.59	4.518	ug/l	1.31	81000.00		12737.85	12934.67	13034.69
39 K #2	1074.5	214.9	ug/l	1.00	81000.00		79855.06	80698.73	80005.74
40 Ca #1	17490	3498	ug/l	0.97	81000.00		20454792.00	20502874.00	20666874.00
47 Ti #3	0.19325	0.03865	ug/l	54.18	1620.00		163.34	136.67	136.67
51 V #2	4.3795	0.8759	ug/l	1.93	1800.00		2419.07	2382.39	2330.17
52 Cr #2	-0.045	-0.009	ug/l	61.38	1800.00		287.78	291.12	261.12
55 Mn #3	16.82	3.364	ug/l	3.48	1800.00		63411.89	63144.18	61913.25
56 Fe #1	980	196	ug/l	1.06	81000.00		1497723.30	1500890.90	1515924.50
59 Co #3	1.0615	0.2123	ug/l	1.67	1800.00		3020.33	2943.65	3043.66
60 Ni #2	12.535	2.507	ug/l	0.22	1800.00		2834.69	2811.35	2831.35
63 Cu #2	45.865	9.173	ug/l	1.42	1800.00		27924.49	28374.01	28565.47
66 Zn #3	126.3	25.26	ug/l	3.69	1800.00		50954.65	52461.92	50650.15
75 As #2	0.2013	0.04026	ug/l	27.50	100.00		26.33	30.67	23.67
78 Se #1	-0.13765	-0.02753	ug/l	32.56	100.00		11.00	15.00	11.00
88 Sr #3	37.37	7.474	ug/l	4.36	1800.00		183492.42	183505.17	183502.66
95 Mo #3	0.2854	0.05708	ug/l	10.15	1800.00		300.01	340.02	363.35
107 Ag #3	-0.01253	-0.002506	ug/l	47.29	100.00		83.34	106.67	90.00
111 Cd #3	0.0831	0.01662	ug/l	52.38	100.00		46.60	23.26	66.59
118 Sn #3	0.9355	0.1871	ug/l	5.31	1800.00		1990.18	2120.20	2093.52
121 Sb #3	0.37175	0.07435	ug/l	6.15	100.00		696.70	706.70	673.37
137 Ba #3	1.9875	0.3975	ug/l	2.01	1800.00		1573.45	1533.45	1643.46
202 Hg #3	-0.04989	-0.009978	ug/l	37.83	5.00		92.67	71.00	91.00
205 Tl #3	-0.012865	-0.002573	ug/l	38.73	20.00		133.34	86.67	130.01
208 Pb #3	15.115	3.023	ug/l	4.54	1800.00		101286.10	101821.26	101513.32
232 Th #3	0.1632	0.03264	ug/l	6.53	#VALUE!		1343.44	1340.10	1353.44
238 U #3	0.00455	0.00091	ug/l	22.21	#VALUE!		46.67	60.00	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	396667.56	4.54	442436.88	89.7	60 - 125		385194.53	387409.72	417398.44
45 Sc #1	395842.72	0.72	456299.72	86.8	60 - 125		393804.72	399097.31	394626.16
45 Sc #3	718784.13	6.55	765061.25	94.0	60 - 125		688472.81	694832.81	773046.75
74 Ge #1	140403.52	0.94	153441.28	91.5	60 - 125		139469.63	141919.48	139821.44
74 Ge #2	42611.10	0.31	47804.94	89.1	60 - 125		42746.62	42484.89	42601.80
74 Ge #3	213107.31	2.18	224564.78	94.9	60 - 125		210402.20	210439.38	218480.36
89 Y #3	1264239.90	4.46	1302847.50	97.0	60 - 125		1225916.00	1237839.80	1328963.80
115 In #3	1304908.50	3.62	1366177.60	95.5	60 - 125		1269728.40	1286425.90	1358571.50
159 Tb #3	1800758.30	4.54	2052817.90	87.7	60 - 125		1761001.30	1746498.30	1894775.10
209 Bi #3	1137910.30	5.77	1405468.50	81.0	60 - 125		1074932.10	1132860.90	1205937.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\227SMPL.D\227SMPL.D#
 Date Acquired: Aug 27 2014 08:18 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-19-aPDS
 Misc Info: DW
 Vial Number: 2311
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	19.33	19.33	ug/l	1.01	100.00		32310.47	32173.53	32043.36
11 B #3	50.6	50.6	ug/l	0.91	1800.00		69634.90	67429.71	67871.66
23 Na #1	9262	9262	ug/l	0.69	81000.00		29193726.00	29411586.00	29746996.00
24 Mg #1	6223	6223	ug/l	1.03	81000.00		13843276.00	13858229.00	13809418.00
27 Al #1	207.8	207.8	ug/l	0.61	81000.00		547068.88	553191.38	549308.69
39 K #2	2969	2969	ug/l	5.55	81000.00		968756.13	988774.38	982343.94
40 Ca #1	18770	18770	ug/l	0.32	81000.00		113579400.00	114995490.00	115465440.00
47 Ti #3	19.91	19.91	ug/l	0.71	1620.00		21122.35	20735.20	20284.77
51 V #2	22.01	22.01	ug/l	6.51	1800.00		56027.79	56537.02	55510.74
52 Cr #2	17.62	17.62	ug/l	6.58	1800.00		54208.15	55197.65	53863.85
55 Mn #3	209.5	209.5	ug/l	0.82	1800.00		3815209.00	3750778.30	3729105.80
56 Fe #1	2884	2884	ug/l	1.14	81000.00		22951132.00	22853630.00	23189786.00
59 Co #3	19.54	19.54	ug/l	1.04	1800.00		267248.34	266603.31	263744.09
60 Ni #2	29.66	29.66	ug/l	6.32	1800.00		33856.43	34035.68	33600.41
63 Cu #2	60.99	60.99	ug/l	6.71	1800.00		191441.03	192575.94	188692.94
66 Zn #3	145.3	145.3	ug/l	0.92	1800.00		289974.59	288261.88	285380.28
75 As #2	19.14	19.14	ug/l	5.77	100.00		6353.78	6423.14	6382.46
78 Se #1	19.92	19.92	ug/l	0.24	100.00		4845.32	4839.32	4847.65
88 Sr #3	58.37	58.37	ug/l	1.63	1800.00		1416189.90	1392906.30	1378133.40
95 Mo #3	19.35	19.35	ug/l	1.26	1800.00		70984.94	71406.70	71369.86
107 Ag #3	17.86	17.86	ug/l	0.20	100.00		185782.78	183596.25	181946.22
111 Cd #3	18.7	18.7	ug/l	0.31	100.00		42139.15	41333.91	41186.84
118 Sn #3	19.72	19.72	ug/l	0.31	1800.00		140271.98	137977.80	136854.98
121 Sb #3	18.84	18.84	ug/l	0.33	100.00		159618.41	156696.59	156847.69
137 Ba #3	20.44	20.44	ug/l	0.98	1800.00		76402.01	76254.62	74409.74
202 Hg #3	0.9002	0.9002	ug/l	0.34	5.00		2629.89	2608.22	2650.57
205 Tl #3	3.48	3.48	ug/l	0.98	20.00		83787.46	81636.98	82373.48
208 Pb #3	32.74	32.74	ug/l	0.82	1800.00		1068861.90	1050375.00	1053059.40
232 Th #3	19.95	19.95	ug/l	0.91	#VALUE!		632980.44	609890.94	629539.44
238 U #3	18.88	18.88	ug/l	0.37	#VALUE!		621469.56	608933.88	614498.25

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	384860.03	1.42	442436.88	87.0	60 - 125		390803.59	383749.22	380027.34
45 Sc #1	412182.88	0.98	456299.72	90.3	60 - 125		407515.25	414852.94	414180.41
45 Sc #3	703520.94	1.35	765061.25	92.0	60 - 125		713399.50	702656.75	694506.56
74 Ge #1	139672.44	0.16	153441.28	91.0	60 - 125		139484.44	139919.70	139613.17
74 Ge #2	43896.13	5.96	47804.94	91.8	60 - 125		41978.15	42833.46	46876.77
74 Ge #3	209693.20	1.72	224564.78	93.4	60 - 125		212921.61	210346.30	205811.69
89 Y #3	1230725.90	0.51	1302847.50	94.5	60 - 125		1230790.90	1224456.90	1236930.30
115 In #3	1241898.50	0.95	1366177.60	90.9	60 - 125		1255053.10	1238464.90	1232177.80
159 Tb #3	1749723.90	0.69	2052817.90	85.2	60 - 125		1755467.30	1735777.90	1757926.40
209 Bi #3	1046158.00	1.39	1405468.50	74.4	60 - 125		1060913.80	1031811.40	1045748.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\228SMPL.D\228SMPL.D#
 Date Acquired: Aug 27 2014 08:26 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-19-b ms
 Misc Info: DW
 Vial Number: 2312
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	21.18	21.18	ug/l	0.55	100.00		34410.80	34617.76	34397.37
11 B #3	93.51	93.51	ug/l	1.54	1800.00		122082.42	119666.95	123251.95
23 Na #1	10050	10050	ug/l	11.15	81000.00		28072756.00	27944560.00	27885836.00
24 Mg #1	6846	6846	ug/l	11.55	81000.00		13437026.00	13270797.00	13265123.00
27 Al #1	2284	2284	ug/l	11.69	81000.00		5328424.00	5259436.00	5241776.50
39 K #2	3216	3216	ug/l	0.23	81000.00		976905.94	988108.63	984277.38
40 Ca #1	20330	20330	ug/l	11.23	81000.00		109305850.00	108097990.00	108786300.00
47 Ti #3	41.71	41.71	ug/l	1.54	1620.00		41543.28	42645.77	41613.20
51 V #2	44.91	44.91	ug/l	0.91	1800.00		104572.24	105735.43	107135.52
52 Cr #2	40.4	40.4	ug/l	0.75	1800.00		114105.52	115447.87	116593.68
55 Mn #3	227.8	227.8	ug/l	1.21	1800.00		3899526.50	3985737.80	3949910.00
56 Fe #1	3344	3344	ug/l	11.29	81000.00		23470142.00	23322668.00	23238746.00
59 Co #3	22.01	22.01	ug/l	0.61	1800.00		287520.78	289051.03	289446.88
60 Ni #2	52.47	52.47	ug/l	0.14	1800.00		55287.57	55628.56	55527.21
63 Cu #2	83.01	83.01	ug/l	0.59	1800.00		240016.55	239953.39	242669.91
66 Zn #3	165	165	ug/l	0.43	1800.00		314204.06	316562.81	314210.38
75 As #2	43.73	43.73	ug/l	0.78	100.00		13397.58	13478.98	13667.11
78 Se #1	46.13	46.13	ug/l	8.67	100.00		10191.53	10165.19	10227.21
88 Sr #3	79.17	79.17	ug/l	1.37	1800.00		1845043.50	1837909.50	1837860.80
95 Mo #3	42.11	42.11	ug/l	1.32	1800.00		150383.41	150538.91	152716.28
107 Ag #3	0.01065	0.01065	ug/l	48.45	100.00		173.34	276.68	206.67
111 Cd #3	20.45	20.45	ug/l	1.73	100.00		44136.70	43902.77	44938.07
118 Sn #3	84.48	84.48	ug/l	1.02	1800.00		575496.44	573523.81	579188.06
121 Sb #3	21.06	21.06	ug/l	1.09	100.00		171746.44	171213.92	173140.50
137 Ba #3	42.02	42.02	ug/l	0.85	1800.00		152137.88	151165.59	152056.81
202 Hg #3	1.855	1.855	ug/l	1.13	5.00		5180.19	5093.17	5226.20
205 Tl #3	15.25	15.25	ug/l	0.36	20.00		351473.44	352499.53	352466.56
208 Pb #3	34.21	34.21	ug/l	0.86	1800.00		1068973.50	1072873.40	1086993.30
232 Th #3	21.94	21.94	ug/l	0.65	#VALUE!		660790.38	666313.63	669969.69
238 U #3	21.25	21.25	ug/l	0.27	#VALUE!		669815.44	667569.19	677163.75

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	376230.97	0.47	442436.88	85.0	60 - 125		374314.72	376616.28	377761.81
45 Sc #1	363639.63	10.20	456299.72	79.7	60 - 125		321316.25	379073.66	390528.97
45 Sc #3	681683.25	0.22	765061.25	89.1	60 - 125		680507.81	681213.88	683328.13
74 Ge #1	127834.32	8.27	153441.28	83.3	60 - 125		115630.43	133868.58	134003.97
74 Ge #2	40612.12	0.41	47804.94	85.0	60 - 125		40418.02	40714.20	40704.15
74 Ge #3	202037.02	0.29	224564.78	90.0	60 - 125		202477.84	202266.42	201366.77
89 Y #3	1196510.40	1.14	1302847.50	91.8	60 - 125		1180832.60	1203049.60	1205649.00
115 In #3	1211764.00	0.53	1366177.60	88.7	60 - 125		1211206.90	1218397.80	1205687.60
159 Tb #3	1704695.00	0.23	2052817.90	83.0	60 - 125		1707417.00	1700137.90	1706530.00
209 Bi #3	1014920.40	0.51	1405468.50	72.2	60 - 125		1014495.40	1009952.90	1020313.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\229SMPL.D\229SMPL.D#
 Date Acquired: Aug 27 2014 08:33 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-19-c msd
 Misc Info: DW
 Vial Number: 2401
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	21.4	21.4	ug/l	0.93	100.00		35015.18	34517.53	34671.15
11 B # 3	94.4	94.4	ug/l	0.27	1800.00		122353.50	122642.58	122440.96
23 Na # 1	9660	9660	ug/l	27.79	81000.00		28045340.00	27960582.00	28965336.00
24 Mg # 1	6559	6559	ug/l	28.40	81000.00		13331975.00	13144828.00	13825315.00
27 Al # 1	2168	2168	ug/l	28.04	81000.00		5224412.50	5189544.00	5412364.00
39 K # 2	3237	3237	ug/l	0.66	81000.00		980368.75	992642.69	1001281.60
40 Ca # 1	19350	19350	ug/l	27.32	81000.00		108528890.00	107765530.00	110978290.00
47 Ti # 3	41.95	41.95	ug/l	1.27	1620.00		41506.54	42194.66	42792.66
51 V # 2	45.27	45.27	ug/l	0.26	1800.00		106439.50	106799.16	107280.75
52 Cr # 2	40.23	40.23	ug/l	0.17	1800.00		114917.06	114631.98	115782.24
55 Mn # 3	229.4	229.4	ug/l	0.48	1800.00		3967605.80	3964580.00	4010695.80
56 Fe # 1	3169	3169	ug/l	28.15	81000.00		23259092.00	22730496.00	23854686.00
59 Co # 3	22.02	22.02	ug/l	0.85	1800.00		288397.91	289914.09	289540.88
60 Ni # 2	52.8	52.8	ug/l	0.15	1800.00		55646.35	55750.05	56391.93
63 Cu # 2	83.5	83.5	ug/l	0.45	1800.00		241816.23	243087.11	243231.00
66 Zn # 3	167.5	167.5	ug/l	0.40	1800.00		318769.22	318485.53	323881.59
75 As # 2	44.05	44.05	ug/l	0.94	100.00		13627.08	13699.13	13584.38
78 Se # 1	45.59	45.59	ug/l	24.83	100.00		10166.18	10085.13	10432.66
88 Sr # 3	79.42	79.42	ug/l	0.84	1800.00		1849534.10	1876969.80	1853112.60
95 Mo # 3	42.55	42.55	ug/l	0.82	1800.00		150877.92	153926.25	153236.98
107 Ag # 3	0.004711	0.004711	ug/l	63.72	100.00		190.01	153.34	133.34
111 Cd # 3	20.57	20.57	ug/l	0.97	100.00		43792.39	44473.61	45425.88
118 Sn # 3	85.78	85.78	ug/l	0.55	1800.00		582371.75	584964.81	586264.31
121 Sb # 3	21.33	21.33	ug/l	1.31	100.00		174571.53	174669.48	173190.83
137 Ba # 3	42.64	42.64	ug/l	0.69	1800.00		153762.28	153746.02	154286.63
202 Hg # 3	1.868	1.868	ug/l	0.47	5.00		5214.53	5178.52	5265.89
205 Tl # 3	15.36	15.36	ug/l	0.17	20.00		354094.47	355490.66	357783.63
208 Pb # 3	34.63	34.63	ug/l	0.39	1800.00		1087875.80	1095761.50	1097414.60
232 Th # 3	22.16	22.16	ug/l	0.15	#VALUE!		673450.75	679130.56	679840.63
238 U # 3	21.28	21.28	ug/l	0.54	#VALUE!		674116.25	674128.75	683914.25

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	375233.59	0.27	442436.88	84.8	60 - 125		374241.28	375203.47	376256.00
45 Sc # 1	398832.78	25.85	456299.72	87.4	60 - 125		389405.81	506281.38	300811.16
45 Sc # 3	681495.44	0.27	765061.25	89.1	60 - 125		679982.31	680942.25	683561.88
74 Ge # 1	134061.52	22.45	153441.28	87.4	60 - 125		133895.34	164230.13	104059.10
74 Ge # 2	40684.49	0.58	47804.94	85.1	60 - 125		40536.02	40562.75	40954.70
74 Ge # 3	202439.55	0.99	224564.78	90.1	60 - 125		200648.14	202059.19	204611.30
89 Y # 3	1205280.30	0.51	1302847.50	92.5	60 - 125		1209759.80	1207763.00	1198317.60
115 In # 3	1210906.80	0.87	1366177.60	88.6	60 - 125		1201222.10	1209401.80	1222096.60
159 Tb # 3	1710810.30	0.51	2052817.90	83.3	60 - 125		1705263.30	1706306.60	1720861.00
209 Bi # 3	1022548.40	0.48	1405468.50	72.8	60 - 125		1017252.70	1023327.40	1027065.20

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\230SMPL.D\230SMPL.D#
 Date Acquired: Aug 27 2014 08:40 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-32-a
 Misc Info: DW
 Vial Number: 2402
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.002184	0.002184	ug/l	54.40	100.00		3.33	3.33	6.67
11 B #3	15.69	15.69	ug/l	2.63	1800.00		21515.57	21538.89	22536.76
23 Na #1	7364	7364	ug/l	0.49	81000.00		22003856.00	22099718.00	22064260.00
24 Mg #1	4350	4350	ug/l	0.33	81000.00		9095538.00	9105984.00	9112622.00
27 Al #1	23.05	23.05	ug/l	1.45	81000.00		58429.20	59412.40	58212.05
39 K #2	1150	1150	ug/l	0.59	81000.00		358648.13	358102.00	357126.03
40 Ca #1	16550	16550	ug/l	0.53	81000.00		94958416.00	95375024.00	95100088.00
47 Ti #3	0.6517	0.6517	ug/l	6.24	1620.00		780.04	740.04	710.03
51 V #2	8.873	8.873	ug/l	2.37	1800.00		20720.41	21425.70	20876.15
52 Cr #2	0.1328	0.1328	ug/l	9.60	1800.00		674.46	627.79	704.46
55 Mn #3	1.891	1.891	ug/l	2.58	1800.00		33634.27	33817.98	33053.32
56 Fe #1	21.75	21.75	ug/l	0.46	81000.00		167994.92	166222.23	166861.53
59 Co #3	0.03399	0.03399	ug/l	8.00	1800.00		480.02	536.69	483.35
60 Ni #2	0.5041	0.5041	ug/l	1.94	1800.00		578.90	582.24	565.57
63 Cu #2	7.208	7.208	ug/l	1.05	1800.00		21075.42	21227.83	21317.93
66 Zn #3	15.29	15.29	ug/l	0.94	1800.00		29277.07	28913.34	29470.78
75 As #2	0.1716	0.1716	ug/l	13.15	100.00		68.00	58.00	72.00
78 Se #1	0.1366	0.1366	ug/l	3.48	100.00		49.33	48.33	50.67
88 Sr #3	40.55	40.55	ug/l	0.77	1800.00		922234.56	914890.38	952742.69
95 Mo #3	0.6163	0.6163	ug/l	5.18	1800.00		2403.57	2250.20	2236.87
107 Ag #3	-0.001566	-0.001566	ug/l	108.56	100.00		86.67	83.34	116.67
111 Cd #3	0.08951	0.08951	ug/l	6.67	100.00		182.81	199.51	212.85
118 Sn #3	0.1251	0.1251	ug/l	12.32	1800.00		1593.46	1413.44	1450.10
121 Sb #3	0.1183	0.1183	ug/l	3.77	100.00		1016.73	996.72	970.06
137 Ba #3	2.322	2.322	ug/l	2.25	1800.00		8332.27	8445.65	8278.95
202 Hg #3	-0.004257	-0.004257	ug/l	68.90	5.00		87.67	90.67	105.34
205 Tl #3	0.02049	0.02049	ug/l	15.67	20.00		696.70	633.37	566.70
208 Pb #3	0.7455	0.7455	ug/l	3.12	1800.00		23614.28	24771.75	24478.15
232 Th #3	0.1361	0.1361	ug/l	8.93	#VALUE!		4497.47	4634.17	3993.97
238 U #3	0.006996	0.006996	ug/l	8.08	#VALUE!		263.35	233.34	240.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	371618.53	0.29	442436.88	84.0	60 - 125		371369.44	370674.72	372811.44
45 Sc #1	387927.34	0.33	456299.72	85.0	60 - 125		388234.47	386521.94	389025.69
45 Sc #3	672516.00	0.72	765061.25	87.9	60 - 125		668372.19	671383.00	677792.81
74 Ge #1	132774.73	0.52	153441.28	86.5	60 - 125		133468.92	132098.16	132757.14
74 Ge #2	40495.56	0.59	47804.94	84.7	60 - 125		40724.18	40244.27	40518.23
74 Ge #3	198682.97	1.34	224564.78	88.5	60 - 125		196979.84	197328.64	201740.41
89 Y #3	1180261.50	1.52	1302847.50	90.6	60 - 125		1178254.40	1163396.00	1199134.40
115 In #3	1201817.30	1.39	1366177.60	88.0	60 - 125		1192187.40	1192225.60	1221039.00
159 Tb #3	1679510.80	1.74	2052817.90	81.8	60 - 125		1669395.10	1656776.00	1712361.30
209 Bi #3	1023533.40	1.11	1405468.50	72.8	60 - 125		1012009.60	1023894.70	1034696.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\231_CCV.D\231_CCV.D#
 Date Acquired: Aug 27 2014 08:48 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	47.83 ug/l	0.46	50.00	89.5 - 110		77663.41	77914.24	77907.56
11 B	95.12 ug/l	0.96	100.00	89.5 - 110		122857.34	124470.27	123762.59
23 Na	5149 ug/l	0.57	5000.00	89.5 - 110		15049736.00	14999723.00	15095556.00
24 Mg	5118 ug/l	0.80	5000.00	89.5 - 110		10444203.00	10439217.00	10427333.00
27 Al	531.2 ug/l	1.07	500.00	89.5 - 110		1292480.60	1270779.30	1297773.40
39 K	5099 ug/l	0.58	5000.00	89.5 - 110		1532703.90	1547320.00	1540269.80
40 Ca	5303 ug/l	1.10	5000.00	89.5 - 110		29858866.00	29697966.00	29628080.00
47 Ti	51.13 ug/l	1.18	50.00	89.5 - 110		50886.40	50929.42	50207.64
51 V	49.58 ug/l	0.78	50.00	89.5 - 110		115934.09	116100.76	115600.88
52 Cr	48.83 ug/l	0.77	50.00	89.5 - 110		138404.55	138540.09	138022.91
55 Mn	507.3 ug/l	0.54	500.00	89.5 - 110		8731352.00	8714163.00	8838997.00
56 Fe	5439 ug/l	1.09	5000.00	89.5 - 110		40016808.00	39385420.00	39917408.00
59 Co	49.47 ug/l	0.29	50.00	89.5 - 110		642927.69	646304.19	651388.19
60 Ni	50.32 ug/l	0.96	50.00	89.5 - 110		52979.75	52764.72	52615.34
63 Cu	48.85 ug/l	1.02	50.00	89.5 - 110		141202.98	141051.92	140115.92
66 Zn	45.25 ug/l	0.57	50.00	89.5 - 110		85980.88	87152.56	86552.81
75 As	49.17 ug/l	0.56	50.00	89.5 - 110		14997.82	15144.27	15077.56
78 Se	46.77 ug/l	0.51	50.00	89.5 - 110		10686.14	10633.44	10622.44
88 Sr	48.99 ug/l	0.46	50.00	89.5 - 110		1138402.90	1141923.60	1135460.60
95 Mo	50.56 ug/l	0.68	50.00	89.5 - 110		181313.23	180682.23	182168.67
107 Ag	48.34 ug/l	0.82	50.00	89.5 - 110		483813.31	483201.91	487376.75
111 Cd	46.79 ug/l	0.75	50.00	89.5 - 110		101289.79	101403.41	101447.12
118 Sn	48.81 ug/l	1.18	50.00	89.5 - 110		331097.13	334317.41	333265.78
121 Sb	47.06 ug/l	1.21	50.00	89.5 - 110		381641.75	383891.94	386977.38
137 Ba	48.83 ug/l	1.05	50.00	89.5 - 110		175489.86	175698.61	177608.44
202 Hg	2.477 ug/l	1.03	2.50	89.5 - 110		6841.48	6797.13	6872.83
205 Tl	9.263 ug/l	0.53	10.00	89.5 - 110		211881.33	213497.34	214226.50
208 Pb	45.97 ug/l	0.58	50.00	89.5 - 110		1433923.80	1441158.80	1448356.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	376162.31	0.29	442436.88	85.0	60 - 125		377301.91	375154.72	376030.28
45 Sc	377971.69	0.72	456299.72	82.8	60 - 125		375636.88	377303.81	380974.44
45 Sc	672266.19	0.40	765061.25	87.9	60 - 125		669809.00	671824.38	675165.31
74 Ge	131055.02	0.34	153441.28	85.4	60 - 125		131039.34	130615.10	131510.63
74 Ge	40297.02	0.61	47804.94	84.3	60 - 125		40058.39	40279.93	40552.77
74 Ge	201488.55	0.38	224564.78	89.7	60 - 125		200705.39	201538.13	202222.16
89 Y	1196188.10	0.40	1302847.50	91.8	60 - 125		1190699.80	1199291.30	1198573.40
115 In	1210986.50	0.69	1366177.60	88.6	60 - 125		1219869.60	1203252.90	1209836.80
159 Tb	1698878.60	1.08	2052817.90	82.8	60 - 125		1680240.10	1699606.60	1716789.10
209 Bi	1019196.30	0.49	1405468.50	72.5	60 - 125		1015232.20	1017588.80	1024767.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\232_CCB.D\232_CCB.D#
 Date Acquired: Aug 27 2014 08:55 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.006314	0.006314	ug/l	94.54	#VALUE!		16.67	16.67	0.00
11 B #3	2.201	2.201	ug/l	8.38	#VALUE!		5104.12	4760.70	4674.00
23 Na #1	-11.01	-11.01	ug/l	0.87	#VALUE!		47739.50	47839.80	48371.25
24 Mg #1	0.5264	0.5264	ug/l	13.69	#VALUE!		1853.48	1910.16	2133.51
27 Al #1	0.4201	0.4201	ug/l	10.49	#VALUE!		2490.24	2290.20	2346.88
39 K #2	-11.47	-11.47	ug/l	3.98	#VALUE!		7831.84	7905.18	8121.95
40 Ca #1	2.496	2.496	ug/l	0.82	#VALUE!		35300.40	35256.81	35537.11
47 Ti #3	-0.06626	-0.06626	ug/l	5.90	#VALUE!		30.00	30.00	36.67
51 V #2	0.0008968	0.0008968	ug/l	645.29	#VALUE!		206.67	192.23	218.89
52 Cr #2	-0.002544	-0.002544	ug/l	390.76	#VALUE!		313.34	268.89	264.45
55 Mn #3	0.1022	0.1022	ug/l	14.98	#VALUE!		3387.08	2963.66	2896.98
56 Fe #1	1.411	1.411	ug/l	3.18	#VALUE!		14232.44	13615.36	13842.18
59 Co #3	0.00638	0.00638	ug/l	32.49	#VALUE!		176.67	133.34	126.67
60 Ni #2	0.04311	0.04311	ug/l	19.21	#VALUE!		98.89	84.45	84.45
63 Cu #2	-0.04842	-0.04842	ug/l	5.06	#VALUE!		235.56	251.12	244.45
66 Zn #3	0.04018	0.04018	ug/l	78.15	#VALUE!		713.37	636.70	596.69
75 As #2	0.02233	0.02233	ug/l	11.36	#VALUE!		19.00	20.67	20.00
78 Se #1	-0.03907	-0.03907	ug/l	14.95	#VALUE!		7.67	8.67	10.33
88 Sr #3	0.007473	0.007473	ug/l	26.07	#VALUE!		360.01	270.01	326.68
95 Mo #3	0.03195	0.03195	ug/l	32.96	#VALUE!		263.34	203.34	196.67
107 Ag #3	0.0007517	0.0007517	ug/l	447.12	#VALUE!		153.34	86.67	120.00
111 Cd #3	0.002869	0.002869	ug/l	81.25	#VALUE!		13.28	6.62	16.62
118 Sn #3	0.001617	0.001617	ug/l	190.91	#VALUE!		663.37	680.03	640.03
121 Sb #3	0.02435	0.02435	ug/l	4.53	#VALUE!		226.68	246.68	236.68
137 Ba #3	0.007409	0.007409	ug/l	45.97	#VALUE!		53.34	56.67	76.67
202 Hg #3	0.01028	0.01028	ug/l	23.52	#VALUE!		140.67	131.33	130.00
205 Tl #3	0.0007857	0.0007857	ug/l	227.70	#VALUE!		223.34	190.01	143.34
208 Pb #3	-0.01594	-0.01594	ug/l	11.46	#VALUE!		773.37	670.03	706.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	373284.09	0.28	442436.88	84.4	60 - 125		372934.53	372451.97	374465.72
45 Sc #1	373750.75	0.14	456299.72	81.9	60 - 125		373226.78	373719.59	374305.88
45 Sc #3	654801.69	0.27	765061.25	85.6	60 - 125		654651.69	653114.25	656639.25
74 Ge #1	131202.09	0.34	153441.28	85.5	60 - 125		131252.06	130736.16	131618.03
74 Ge #2	40188.60	0.34	47804.94	84.1	60 - 125		40032.68	40284.36	40248.76
74 Ge #3	200550.41	0.53	224564.78	89.3	60 - 125		200903.92	199364.23	201383.02
89 Y #3	1189992.80	0.16	1302847.50	91.3	60 - 125		1191871.80	1188184.00	1189922.80
115 In #3	1218348.60	0.53	1366177.60	89.2	60 - 125		1210943.50	1221135.30	1222967.10
159 Tb #3	1685680.10	0.60	2052817.90	82.1	60 - 125		1675240.40	1695538.30	1686261.90
209 Bi #3	1043207.30	0.22	1405468.50	74.2	60 - 125		1040772.60	1043556.10	1045293.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\233SMPL.D\233SMPL.D#
 Date Acquired: Aug 27 2014 09:03 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-32-b ms
 Misc Info: DW
 Vial Number: 2403
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	21.04	21.04	ug/l	1.57	100.00		33813.00	33295.41	34808.09
11 B #3	95.19	95.19	ug/l	1.22	1800.00		120505.59	122541.56	125368.97
23 Na #1	9413	9413	ug/l	0.29	81000.00		28338940.00	28141146.00	28287466.00
24 Mg #1	6364	6364	ug/l	0.61	81000.00		13380051.00	13399166.00	13297151.00
27 Al #1	2088	2088	ug/l	0.58	81000.00		5208129.00	5216012.50	5186556.50
39 K #2	3293	3293	ug/l	0.64	81000.00		1005347.90	995529.38	1008334.90
40 Ca #1	18670	18670	ug/l	0.53	81000.00		107658740.00	107465880.00	107912490.00
47 Ti #3	41.27	41.27	ug/l	1.43	1620.00		41686.71	41867.12	41215.68
51 V #2	49.56	49.56	ug/l	0.31	1800.00		115643.07	115975.32	117452.16
52 Cr #2	40.35	40.35	ug/l	0.22	1800.00		114209.43	114522.34	115814.37
55 Mn #3	213.7	213.7	ug/l	1.00	1800.00		3709691.50	3703310.30	3704773.30
56 Fe #1	2213	2213	ug/l	0.95	81000.00		16603191.00	16586183.00	16790490.00
59 Co #3	20.79	20.79	ug/l	0.38	1800.00		270691.13	273906.94	274438.50
60 Ni #2	41.3	41.3	ug/l	0.28	1800.00		43464.14	43342.67	43783.71
63 Cu #2	46.82	46.82	ug/l	0.37	1800.00		134534.05	135888.30	136280.05
66 Zn #3	55.4	55.4	ug/l	0.95	1800.00		105883.48	105917.85	107007.13
75 As #2	43.84	43.84	ug/l	0.36	100.00		13454.95	13521.33	13526.67
78 Se #1	43.85	43.85	ug/l	0.76	100.00		10160.18	10079.13	10028.44
88 Sr #3	80.4	80.4	ug/l	0.18	1800.00		1866400.00	1880661.60	1862867.30
95 Mo #3	42.4	42.4	ug/l	0.97	1800.00		151815.03	152162.27	153173.17
107 Ag #3	0.009206	0.009206	ug/l	16.62	100.00		213.34	213.34	186.67
111 Cd #3	20.42	20.42	ug/l	1.02	100.00		44430.29	44560.69	43935.75
118 Sn #3	83.51	83.51	ug/l	0.79	1800.00		568965.75	570659.69	570277.31
121 Sb #3	20.98	20.98	ug/l	0.67	100.00		170467.77	171887.92	172234.53
137 Ba #3	42.66	42.66	ug/l	0.79	1800.00		154296.97	155006.98	153425.91
202 Hg #3	1.861	1.861	ug/l	0.47	5.00		5157.53	5272.55	5224.21
205 Tl #3	15.16	15.16	ug/l	0.46	20.00		350823.47	353700.66	352960.09
208 Pb #3	20	20	ug/l	0.73	1800.00		633237.00	634668.19	634698.25
232 Th #3	21.96	21.96	ug/l	0.82	#VALUE!		671122.69	668053.63	675908.88
238 U #3	21.19	21.19	ug/l	1.00	#VALUE!		670758.31	672128.25	682479.38

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	373139.75	0.84	442436.88	84.3	60 - 125		370887.19	371802.28	376729.78
45 Sc #1	389120.72	0.52	456299.72	85.3	60 - 125		391386.78	387576.78	388398.59
45 Sc #3	683257.38	0.80	765061.25	89.3	60 - 125		677367.94	684197.38	688206.88
74 Ge #1	132437.16	0.14	153441.28	86.3	60 - 125		132366.78	132297.17	132647.52
74 Ge #2	40477.39	0.52	47804.94	84.7	60 - 125		40303.29	40414.69	40714.19
74 Ge #3	202310.88	0.90	224564.78	90.1	60 - 125		200293.72	203843.22	202795.64
89 Y #3	1197131.10	0.46	1302847.50	91.9	60 - 125		1197306.80	1202509.90	1191576.60
115 In #3	1212882.40	0.93	1366177.60	88.8	60 - 125		1202236.00	1224745.40	1211665.90
159 Tb #3	1716582.30	0.86	2052817.90	83.6	60 - 125		1699537.00	1725453.10	1724756.80
209 Bi #3	1023243.10	0.36	1405468.50	72.8	60 - 125		1019702.10	1027106.40	1022920.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\234SMPL.D\234SMPL.D#
 Date Acquired: Aug 27 2014 09:10 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-32-c.msd
 Misc Info: DW
 Vial Number: 2404
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	21.47	21.47	ug/l	1.68	100.00		35061.87	35749.71	36200.59
11 B # 3	95.44	95.44	ug/l	0.94	1800.00		127925.75	126406.20	125772.39
23 Na # 1	9402	9402	ug/l	0.47	81000.00		28750720.00	28856746.00	28810932.00
24 Mg # 1	6333	6333	ug/l	0.55	81000.00		13520134.00	13608763.00	13583485.00
27 Al # 1	2121	2121	ug/l	0.52	81000.00		5373310.00	5407720.00	5404235.00
39 K # 2	3277	3277	ug/l	0.97	81000.00		1015052.50	1022422.50	1009442.60
40 Ca # 1	18520	18520	ug/l	0.71	81000.00		109007360.00	109451490.00	108682290.00
47 Ti # 3	41.97	41.97	ug/l	1.60	1620.00		42354.80	43671.19	43334.02
51 V # 2	49.62	49.62	ug/l	0.55	1800.00		118449.32	117924.84	119163.84
52 Cr # 2	40.23	40.23	ug/l	0.70	1800.00		116487.59	115622.63	117402.16
55 Mn # 3	212.2	212.2	ug/l	1.09	1800.00		3766013.30	3766970.00	3754483.80
56 Fe # 1	2223	2223	ug/l	0.15	81000.00		17079334.00	17004070.00	17175654.00
59 Co # 3	21.01	21.01	ug/l	0.98	1800.00		282406.56	281955.38	281631.47
60 Ni # 2	41.23	41.23	ug/l	0.07	1800.00		44407.44	43987.57	44227.07
63 Cu # 2	47.15	47.15	ug/l	0.74	1800.00		138344.94	138870.97	139457.00
66 Zn # 3	55.56	55.56	ug/l	1.09	1800.00		108723.48	109223.23	108920.88
75 As # 2	43.71	43.71	ug/l	1.53	100.00		13531.34	13822.22	13729.83
78 Se # 1	44.1	44.1	ug/l	0.58	100.00		10354.95	10380.97	10467.68
88 Sr # 3	80.07	80.07	ug/l	0.19	1800.00		1889474.50	1897540.40	1901904.50
95 Mo # 3	42.9	42.9	ug/l	1.45	1800.00		155624.50	156208.05	154453.78
107 Ag # 3	0.0009201	0.0009201	ug/l	143.79	100.00		120.00	110.00	136.67
111 Cd # 3	20.55	20.55	ug/l	1.40	100.00		45031.25	44930.78	44927.98
118 Sn # 3	84.53	84.53	ug/l	0.84	1800.00		577820.13	581433.25	585573.88
121 Sb # 3	21.04	21.04	ug/l	0.65	100.00		170585.27	173981.69	175760.23
137 Ba # 3	43.19	43.19	ug/l	0.59	1800.00		156122.97	157919.80	158249.36
202 Hg # 3	1.845	1.845	ug/l	1.16	5.00		5224.21	5203.19	5269.22
205 Tl # 3	15.22	15.22	ug/l	1.05	20.00		355513.78	357417.84	360535.56
208 Pb # 3	20.08	20.08	ug/l	0.77	1800.00		642538.88	643082.50	646432.63
232 Th # 3	22.05	22.05	ug/l	0.27	#VALUE!		675721.06	680731.69	684997.69
238 U # 3	21.27	21.27	ug/l	0.63	#VALUE!		676353.88	683108.13	690653.81

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	384038.47	0.31	442436.88	86.8	60 - 125		383640.25	385396.75	383078.44
45 Sc # 1	397167.88	0.36	456299.72	87.0	60 - 125		397114.03	395775.72	398613.81
45 Sc # 3	696654.38	0.50	765061.25	91.1	60 - 125		695124.56	694204.63	700633.94
74 Ge # 1	135741.38	0.41	153441.28	88.5	60 - 125		135156.89	136256.98	135810.23
74 Ge # 2	41180.06	0.45	47804.94	86.1	60 - 125		41371.22	41002.66	41166.32
74 Ge # 3	206829.53	0.92	224564.78	92.1	60 - 125		206927.98	204871.09	208689.55
89 Y # 3	1218943.10	0.52	1302847.50	93.6	60 - 125		1212196.90	1219862.60	1224769.90
115 In # 3	1222707.00	1.26	1366177.60	89.5	60 - 125		1204950.50	1233037.90	1230132.60
159 Tb # 3	1736041.90	0.51	2052817.90	84.6	60 - 125		1734187.10	1745644.40	1728293.90
209 Bi # 3	1031950.30	0.42	1405468.50	73.4	60 - 125		1027785.90	1031623.00	1036442.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\235SMPL.D\235SMPL.D#
 Date Acquired: Aug 27 2014 09:17 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-1-a
 Misc Info: DW
 Vial Number: 2405
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.007524	0.007524	ug/l	27.75	100.00		16.67	13.33	10.00
11 B # 3	16.42	16.42	ug/l	1.74	1800.00		23598.08	23190.94	23300.96
23 Na # 1	7504	7504	ug/l	0.10	81000.00		23332590.00	23173018.00	23180216.00
24 Mg # 1	4457	4457	ug/l	1.06	81000.00		9585281.00	9601801.00	9738027.00
27 Al # 1	30.67	30.67	ug/l	0.82	81000.00		79778.68	80244.27	80652.42
39 K # 2	1161	1161	ug/l	1.40	81000.00		365953.66	371312.34	369480.94
40 Ca # 1	16830	16830	ug/l	0.11	81000.00		100451740.00	99732760.00	99851720.00
47 Ti # 3	1.062	1.062	ug/l	4.37	1620.00		1166.74	1230.08	1153.40
51 V # 2	8.447	8.447	ug/l	1.20	1800.00		20325.56	20560.23	20430.09
52 Cr # 2	0.1336	0.1336	ug/l	7.61	1800.00		665.57	714.47	676.68
55 Mn # 3	1.382	1.382	ug/l	1.83	1800.00		25241.15	25688.20	26115.46
56 Fe # 1	35.11	35.11	ug/l	0.86	81000.00		274521.31	277134.25	277297.06
59 Co # 3	0.1482	0.1482	ug/l	6.93	1800.00		1960.16	2193.53	1966.83
60 Ni # 2	16.33	16.33	ug/l	0.93	1800.00		17570.63	17531.71	17756.36
63 Cu # 2	23.87	23.87	ug/l	0.69	1800.00		70805.70	70435.41	71208.48
66 Zn # 3	309.4	309.4	ug/l	0.67	1800.00		602430.06	594212.63	603582.63
75 As # 2	0.1837	0.1837	ug/l	7.70	100.00		72.67	66.00	75.00
78 Se # 1	0.1447	0.1447	ug/l	13.71	100.00		49.33	51.00	58.33
88 Sr # 3	40.75	40.75	ug/l	0.56	1800.00		973326.63	959521.88	973795.81
95 Mo # 3	0.5598	0.5598	ug/l	0.83	1800.00		2156.86	2140.19	2130.18
107 Ag # 3	0.003815	0.003815	ug/l	77.17	100.00		156.67	180.01	120.00
111 Cd # 3	0.05624	0.05624	ug/l	12.09	100.00		112.86	142.87	132.87
118 Sn # 3	0.4346	0.4346	ug/l	4.51	1800.00		3643.83	3803.87	3517.12
121 Sb # 3	0.1369	0.1369	ug/l	2.32	100.00		1173.41	1196.75	1140.08
137 Ba # 3	2.716	2.716	ug/l	1.21	1800.00		10086.62	9979.88	9866.46
202 Hg # 3	0.001115	0.001115	ug/l	337.76	5.00		120.67	112.67	101.67
205 Tl # 3	0.02335	0.02335	ug/l	14.75	20.00		780.05	733.38	633.36
208 Pb # 3	1.999	1.999	ug/l	1.02	1800.00		64753.63	63788.59	65718.59
232 Th # 3	0.1545	0.1545	ug/l	5.89	#VALUE!		5237.70	5054.30	4747.53
238 U # 3	0.007601	0.007601	ug/l	5.12	#VALUE!		276.68	273.35	256.68

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	380951.47	0.80	442436.88	86.1	60 - 125		377852.03	381085.59	383916.88
45 Sc # 1	400956.53	0.29	456299.72	87.9	60 - 125		402294.16	400269.50	400305.97
45 Sc # 3	692565.38	0.55	765061.25	90.5	60 - 125		692940.75	688592.81	696162.63
74 Ge # 1	136815.78	0.15	153441.28	89.2	60 - 125		136697.27	136698.53	137051.56
74 Ge # 2	41362.70	0.62	47804.94	86.5	60 - 125		41641.83	41136.26	41310.00
74 Ge # 3	205420.33	0.19	224564.78	91.5	60 - 125		205679.56	204971.94	205609.45
89 Y # 3	1223534.90	0.37	1302847.50	93.9	60 - 125		1223240.90	1219209.60	1228154.40
115 In # 3	1227924.40	0.30	1366177.60	89.9	60 - 125		1225019.80	1232087.10	1226666.10
159 Tb # 3	1722928.10	0.81	2052817.90	83.9	60 - 125		1712988.30	1717023.50	1738772.50
209 Bi # 3	1038935.90	0.72	1405468.50	73.9	60 - 125		1033158.80	1036298.40	1047350.70

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\236SMPL.D\236SMPL.D#
 Date Acquired: Aug 27 2014 09:25 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-44-a
 Misc Info: DW
 Vial Number: 2406
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.005388	0.005388	ug/l	73.89	100.00		3.33	10.00	16.67
11 B # 3	15.84	15.84	ug/l	0.94	1800.00		23000.66	23234.31	22747.05
23 Na # 1	7536	7536	ug/l	0.67	81000.00		23331048.00	23307374.00	23356310.00
24 Mg # 1	4451	4451	ug/l	0.34	81000.00		9575872.00	9662792.00	9654972.00
27 Al # 1	30.96	30.96	ug/l	0.70	81000.00		80966.76	80555.17	81385.09
39 K # 2	1187	1187	ug/l	1.16	81000.00		376760.34	380310.47	382702.31
40 Ca # 1	17010	17010	ug/l	0.39	81000.00		100695560.00	101289460.00	101327100.00
47 Ti # 3	0.7106	0.7106	ug/l	3.38	1620.00		853.38	843.38	806.71
51 V # 2	9.559	9.559	ug/l	0.80	1800.00		23230.06	23325.73	23270.10
52 Cr # 2	0.09966	0.09966	ug/l	1.81	1800.00		597.79	590.01	586.68
55 Mn # 3	4.661	4.661	ug/l	0.77	1800.00		84149.88	84665.61	85013.75
56 Fe # 1	218.3	218.3	ug/l	1.25	81000.00		1696046.00	1674674.40	1721510.80
59 Co # 3	0.03441	0.03441	ug/l	18.18	1800.00		593.36	560.02	436.68
60 Ni # 2	1.673	1.673	ug/l	1.27	1800.00		1869.00	1823.44	1885.67
63 Cu # 2	15.48	15.48	ug/l	0.94	1800.00		46135.14	46275.43	46833.54
66 Zn # 3	7.093	7.093	ug/l	2.69	1800.00		14642.90	14239.14	14716.27
75 As # 2	0.1996	0.1996	ug/l	3.93	100.00		80.00	74.67	75.67
78 Se # 1	0.1173	0.1173	ug/l	16.78	100.00		41.67	50.67	47.00
88 Sr # 3	41.82	41.82	ug/l	1.01	1800.00		985494.69	1011747.50	1008937.20
95 Mo # 3	0.5441	0.5441	ug/l	1.71	1800.00		2176.86	2103.52	2143.53
107 Ag # 3	-0.00402	-0.00402	ug/l	32.94	100.00		76.67	60.00	86.67
111 Cd # 3	0.002988	0.002988	ug/l	50.00	100.00		9.52	16.20	12.86
118 Sn # 3	0.04899	0.04899	ug/l	12.90	1800.00		1046.73	970.06	1043.40
121 Sb # 3	0.116	0.116	ug/l	5.84	100.00		1056.74	1066.73	950.06
137 Ba # 3	2.782	2.782	ug/l	2.19	1800.00		10530.19	10296.80	10643.62
202 Hg # 3	-0.01139	-0.01139	ug/l	0.97	5.00		78.67	79.00	79.67
205 Tl # 3	0.003581	0.003581	ug/l	11.27	20.00		250.01	263.35	270.01
208 Pb # 3	1.131	1.131	ug/l	0.57	1800.00		37802.20	38028.91	38402.92
232 Th # 3	0.06985	0.06985	ug/l	1.84	#VALUE!		2410.27	2470.29	2476.95
238 U # 3	0.00383	0.00383	ug/l	27.47	#VALUE!		183.34	156.67	113.34

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	387361.81	0.35	442436.88	87.6	60 - 125		386278.63	388870.41	386936.44
45 Sc # 1	401042.09	0.70	456299.72	87.9	60 - 125		398041.00	401457.44	403627.91
45 Sc # 3	699958.69	0.33	765061.25	91.5	60 - 125		698006.75	702499.44	699369.81
74 Ge # 1	137079.27	0.34	153441.28	89.3	60 - 125		137532.27	136610.89	137094.64
74 Ge # 2	41674.89	0.59	47804.94	87.2	60 - 125		41865.68	41396.79	41762.20
74 Ge # 3	208370.88	1.02	224564.78	92.8	60 - 125		206114.55	210332.08	208665.98
89 Y # 3	1233104.30	0.60	1302847.50	94.6	60 - 125		1225651.90	1233199.60	1240461.50
115 In # 3	1260998.00	0.83	1366177.60	92.3	60 - 125		1270744.90	1262331.50	1249917.80
159 Tb # 3	1764555.40	0.26	2052817.90	86.0	60 - 125		1761426.60	1762427.00	1769812.30
209 Bi # 3	1067680.50	0.32	1405468.50	76.0	60 - 125		1069180.30	1070042.30	1063819.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\237SMPL.D\237SMPL.D#
 Date Acquired: Aug 27 2014 09:32 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-14-a
 Misc Info: DW
 Vial Number: 2407
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007614	0.0007614	ug/l	152.35	100.00		3.33	3.33	0.00
11 B # 3	15.01	15.01	ug/l	0.45	1800.00		21505.66	21742.52	21765.89
23 Na # 1	7247	7247	ug/l	0.98	81000.00		22201070.00	22330008.00	22111076.00
24 Mg # 1	4278	4278	ug/l	0.55	81000.00		9202473.00	9175157.00	9116032.00
27 Al # 1	26.95	26.95	ug/l	1.12	81000.00		69693.50	70017.88	70194.88
39 K # 2	1137	1137	ug/l	1.06	81000.00		356260.16	362131.81	362497.00
40 Ca # 1	16310	16310	ug/l	0.86	81000.00		96146600.00	96411032.00	95333600.00
47 Ti # 3	0.6671	0.6671	ug/l	7.72	1620.00		776.70	740.04	846.73
51 V # 2	8.491	8.491	ug/l	1.53	1800.00		20611.39	20355.57	20417.82
52 Cr # 2	0.1092	0.1092	ug/l	9.18	1800.00		641.13	590.02	605.57
55 Mn # 3	2.789	2.789	ug/l	1.21	1800.00		50241.62	51000.34	51615.28
56 Fe # 1	31.6	31.6	ug/l	0.52	81000.00		247372.86	246457.23	245985.78
59 Co # 3	0.0345	0.0345	ug/l	8.61	1800.00		563.36	536.69	486.69
60 Ni # 2	0.4197	0.4197	ug/l	5.20	1800.00		468.90	515.57	501.12
63 Cu # 2	4.334	4.334	ug/l	0.55	1800.00		13116.96	12995.77	13278.18
66 Zn # 3	17.36	17.36	ug/l	1.14	1800.00		34860.39	34082.17	34696.75
75 As # 2	0.1756	0.1756	ug/l	16.42	100.00		72.00	57.67	75.67
78 Se # 1	0.1306	0.1306	ug/l	2.36	100.00		49.00	48.00	49.67
88 Sr # 3	40.09	40.09	ug/l	0.64	1800.00		940448.00	953836.56	958431.25
95 Mo # 3	0.5606	0.5606	ug/l	2.01	1800.00		2186.86	2183.53	2160.19
107 Ag # 3	-0.003277	-0.003277	ug/l	52.40	100.00		100.00	70.00	73.34
111 Cd # 3	0.01797	0.01797	ug/l	59.15	100.00		39.52	26.19	72.86
118 Sn # 3	0.002698	0.002698	ug/l	414.38	1800.00		730.03	720.04	600.03
121 Sb # 3	0.111	0.111	ug/l	4.40	100.00		960.05	933.39	1016.73
137 Ba # 3	2.375	2.375	ug/l	0.35	1800.00		8725.83	8945.94	8899.21
202 Hg # 3	-0.01417	-0.01417	ug/l	15.36	5.00		64.33	71.00	76.67
205 Tl # 3	-0.0008297	-0.0008297	ug/l	221.04	20.00		113.34	150.01	200.01
208 Pb # 3	0.1976	0.1976	ug/l	2.26	1800.00		7631.00	7510.95	7761.00
232 Th # 3	0.03079	0.03079	ug/l	7.04	#VALUE!		1186.75	1283.42	1136.75
238 U # 3	0.003782	0.003782	ug/l	4.80	#VALUE!		153.34	150.01	143.34

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	383426.66	0.53	442436.88	86.7	60 - 125		381447.47	385524.06	383308.44
45 Sc # 1	397029.50	0.76	456299.72	87.0	60 - 125		400487.63	395062.53	395538.38
45 Sc # 3	698281.00	0.97	765061.25	91.3	60 - 125		690435.44	702058.00	702349.56
74 Ge # 1	135041.09	0.42	153441.28	88.0	60 - 125		135577.59	134451.72	135093.95
74 Ge # 2	41202.29	1.19	47804.94	86.2	60 - 125		40909.07	40931.25	41766.55
74 Ge # 3	207411.25	0.23	224564.78	92.4	60 - 125		207166.45	207102.97	207964.33
89 Y # 3	1220792.30	0.77	1302847.50	93.7	60 - 125		1211085.80	1229810.00	1221481.00
115 In # 3	1246210.90	1.41	1366177.60	91.2	60 - 125		1225982.80	1255575.60	1257074.50
159 Tb # 3	1749642.00	0.37	2052817.90	85.2	60 - 125		1743921.90	1756713.10	1748291.00
209 Bi # 3	1064015.90	1.02	1405468.50	75.7	60 - 125		1052251.80	1073500.40	1066295.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\238SMPL.D\238SMPL.D#
 Date Acquired: Aug 27 2014 09:39 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-13-a
 Misc Info: DW
 Vial Number: 2408
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002105	0.002105	ug/l	110.40	100.00		6.67	6.67	0.00
11 B # 3	14.51	14.51	ug/l	0.92	1800.00		20931.59	21068.46	21078.50
23 Na # 1	7394	7394	ug/l	0.85	81000.00		22402726.00	22631592.00	22678030.00
24 Mg # 1	4362	4362	ug/l	0.70	81000.00		9253526.00	9316537.00	9344495.00
27 Al # 1	13.11	13.11	ug/l	1.32	81000.00		34294.57	34568.32	35022.55
39 K # 2	1135	1135	ug/l	0.08	81000.00		354241.19	357619.38	356935.72
40 Ca # 1	16530	16530	ug/l	0.68	81000.00		96557864.00	97630928.00	96493704.00
47 Ti # 3	0.6204	0.6204	ug/l	18.83	1620.00		673.37	873.38	660.03
51 V # 2	6.338	6.338	ug/l	1.30	1800.00		15196.25	15355.28	15001.66
52 Cr # 2	0.0933	0.0933	ug/l	4.80	1800.00		543.35	572.24	567.79
55 Mn # 3	12.07	12.07	ug/l	0.63	1800.00		214645.23	213022.72	214921.80
56 Fe # 1	117.8	117.8	ug/l	0.79	81000.00		901746.88	902525.94	911332.50
59 Co # 3	0.2443	0.2443	ug/l	5.46	1800.00		3397.07	3123.68	3457.09
60 Ni # 2	3.197	3.197	ug/l	1.89	1800.00		3474.81	3379.23	3463.69
63 Cu # 2	30.18	30.18	ug/l	0.47	1800.00		87741.98	88930.96	88073.52
66 Zn # 3	51.42	51.42	ug/l	1.31	1800.00		99876.75	99756.56	101468.91
75 As # 2	0.1782	0.1782	ug/l	5.14	100.00		68.00	66.00	71.67
78 Se # 1	0.12	0.12	ug/l	13.73	100.00		42.00	48.00	49.33
88 Sr # 3	39.42	39.42	ug/l	0.62	1800.00		920710.50	924552.38	959510.50
95 Mo # 3	0.5109	0.5109	ug/l	3.19	1800.00		1953.51	2050.18	1963.51
107 Ag # 3	0.04055	0.04055	ug/l	6.20	100.00		503.35	553.36	540.03
111 Cd # 3	0.02757	0.02757	ug/l	27.26	100.00		59.57	86.22	56.24
118 Sn # 3	0.3558	0.3558	ug/l	1.97	1800.00		3190.39	3087.04	3173.72
121 Sb # 3	0.2689	0.2689	ug/l	4.17	100.00		2316.89	2176.86	2380.24
137 Ba # 3	2.152	2.152	ug/l	2.66	1800.00		7802.05	7942.11	8288.92
202 Hg # 3	-0.01023	-0.01023	ug/l	6.16	5.00		81.67	82.34	80.67
205 Tl # 3	-0.001345	-0.001345	ug/l	97.70	20.00		126.67	120.00	180.02
208 Pb # 3	2.388	2.388	ug/l	1.57	1800.00		77843.89	78688.25	77980.53
232 Th # 3	0.0236	0.0236	ug/l	1.23	#VALUE!		976.73	973.39	970.06
238 U # 3	0.002907	0.002907	ug/l	20.59	#VALUE!		133.34	96.67	130.00

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	383423.59	0.55	442436.88	86.7	60 - 125		384807.63	381002.69	384460.47
45 Sc # 1	395371.31	0.21	456299.72	86.6	60 - 125		396182.69	395390.16	394541.03
45 Sc # 3	694283.56	0.44	765061.25	90.7	60 - 125		691037.38	694673.63	697139.69
74 Ge # 1	135150.17	0.10	153441.28	88.1	60 - 125		134991.33	135249.77	135209.41
74 Ge # 2	40813.65	0.50	47804.94	85.4	60 - 125		40579.40	40936.89	40924.64
74 Ge # 3	205752.42	0.44	224564.78	91.6	60 - 125		206741.91	205540.41	204974.94
89 Y # 3	1220374.60	1.66	1302847.50	93.7	60 - 125		1206211.60	1211308.50	1243604.00
115 In # 3	1243487.50	0.54	1366177.60	91.0	60 - 125		1240855.40	1238490.80	1251116.30
159 Tb # 3	1746876.10	1.15	2052817.90	85.1	60 - 125		1739432.10	1731511.90	1769684.40
209 Bi # 3	1063998.80	0.68	1405468.50	75.7	60 - 125		1061771.60	1058133.50	1072091.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\239SMPL.D\239SMPL.D#
 Date Acquired: Aug 27 2014 09:47 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-51-a
 Misc Info: DW
 Vial Number: 2409
 Current Method: C:\ICPCHEM\1\METHODS\BPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\BPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001397	0.001397	ug/l	139.58	100.00		3.33	0.00	6.67
11 B #3	14.55	14.55	ug/l	2.87	1800.00		21302.02	20941.63	21078.42
23 Na #1	7494	7494	ug/l	18.23	81000.00		22082650.00	22322608.00	22545172.00
24 Mg #1	4392	4392	ug/l	19.02	81000.00		8948837.00	9228565.00	9217473.00
27 Al #1	12.38	12.38	ug/l	19.86	81000.00		31456.35	32528.07	31937.23
39 K #2	1133	1133	ug/l	0.48	81000.00		357011.88	355934.31	358877.50
40 Ca #1	16920	16920	ug/l	18.23	81000.00		95898136.00	97404160.00	96915792.00
47 Ti #3	0.5452	0.5452	ug/l	8.82	1620.00		696.70	656.70	660.03
51 V #2	4.764	4.764	ug/l	0.46	1800.00		11411.34	11531.40	11622.56
52 Cr #2	0.03248	0.03248	ug/l	15.70	1800.00		390.01	402.23	374.45
55 Mn #3	29.22	29.22	ug/l	2.52	1800.00		520900.16	522969.31	520097.53
56 Fe #1	218.5	218.5	ug/l	19.30	81000.00		1595222.30	1654925.90	1645505.40
59 Co #3	0.3489	0.3489	ug/l	3.04	1800.00		4760.73	4810.77	4727.39
60 Ni #2	3.501	3.501	ug/l	2.50	1800.00		3864.89	3708.19	3769.30
63 Cu #2	29.73	29.73	ug/l	1.05	1800.00		87871.38	86594.48	87639.16
66 Zn #3	22.75	22.75	ug/l	2.61	1800.00		45396.63	44952.09	45079.32
75 As #2	0.1582	0.1582	ug/l	6.57	100.00		60.67	60.67	66.67
78 Se #1	0.1177	0.1177	ug/l	29.32	100.00		45.67	45.33	42.00
88 Sr #3	40.25	40.25	ug/l	3.79	1800.00		963159.75	967281.44	971755.63
95 Mo #3	0.4739	0.4739	ug/l	4.86	1800.00		1926.83	1820.14	1900.17
107 Ag #3	-0.0002753	-0.0002753	ug/l	722.48	100.00		130.00	113.34	96.67
111 Cd #3	0.01282	0.01282	ug/l	53.03	100.00		19.58	49.60	36.25
118 Sn #3	-0.01896	-0.01896	ug/l	32.58	1800.00		516.69	573.36	526.69
121 Sb #3	0.1579	0.1579	ug/l	6.76	100.00		1450.10	1300.09	1396.76
137 Ba #3	2.512	2.512	ug/l	4.80	1800.00		9282.76	9703.07	9492.93
202 Hg #3	-0.01252	-0.01252	ug/l	18.75	5.00		68.33	80.34	81.67
205 Tl #3	-0.003663	-0.003663	ug/l	12.20	20.00		100.00	83.34	83.34
208 Pb #3	21.26	21.26	ug/l	2.52	1800.00		697191.25	701433.88	701624.19
232 Th #3	0.01527	0.01527	ug/l	7.25	#VALUE!		746.71	690.04	753.38
238 U #3	0.001103	0.001103	ug/l	8.31	#VALUE!		60.00	56.67	70.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	384262.75	2.49	442436.88	86.9	60 - 125		380289.47	377305.78	395193.00
45 Sc #1	394876.94	19.07	456299.72	86.5	60 - 125		480470.09	338809.22	365351.56
45 Sc #3	709081.81	5.50	765061.25	92.7	60 - 125		685513.00	687666.75	754065.63
74 Ge #1	133069.80	17.12	153441.28	86.7	60 - 125		156923.19	111538.04	130748.17
74 Ge #2	41019.73	0.47	47804.94	85.8	60 - 125		40807.76	41065.01	41186.42
74 Ge #3	207735.27	2.36	224564.78	92.5	60 - 125		204158.61	205716.61	213330.63
89 Y #3	1238195.40	4.26	1302847.50	95.0	60 - 125		1208100.00	1207329.90	1299156.30
115 In #3	1264460.10	4.37	1366177.60	92.6	60 - 125		1231534.00	1233589.60	1328256.50
159 Tb #3	1783666.60	2.68	2052817.90	86.9	60 - 125		1762038.80	1750449.50	1838511.60
209 Bi #3	1098005.50	6.28	1405468.50	78.1	60 - 125		1062129.60	1054405.00	1177481.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\240SMPL.D\240SMPL.D#
 Date Acquired: Aug 27 2014 09:54 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-9-a
 Misc Info: DW
 Vial Number: 2410
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0007797	0.0007797	ug/l	301.65	100.00		6.67	0.00	0.00
11 B # 3	14.91	14.91	ug/l	0.69	1800.00		21111.89	21385.43	21375.41
23 Na # 1	7417	7417	ug/l	1.00	81000.00		22846204.00	23133182.00	22521300.00
24 Mg # 1	4512	4512	ug/l	0.42	81000.00		9709563.00	9771312.00	9640297.00
27 Al # 1	18.89	18.89	ug/l	0.70	81000.00		49313.95	50373.09	49423.95
39 K # 2	1122	1122	ug/l	0.23	81000.00		355917.81	352969.16	351535.41
40 Ca # 1	17030	17030	ug/l	0.21	81000.00		100113460.00	101436230.00	100433900.00
47 Ti # 3	0.5949	0.5949	ug/l	9.23	1620.00		636.70	736.70	730.03
51 V # 2	3.382	3.382	ug/l	0.98	1800.00		8259.66	8313.01	8116.26
52 Cr # 2	0.01693	0.01693	ug/l	11.90	1800.00		351.12	345.56	334.45
55 Mn # 3	33.38	33.38	ug/l	0.46	1800.00		576367.31	585892.31	583261.88
56 Fe # 1	909.3	909.3	ug/l	0.18	81000.00		7004065.00	7043068.00	7006664.00
59 Co # 3	0.2505	0.2505	ug/l	4.60	1800.00		3207.03	3353.73	3523.75
60 Ni # 2	3.447	3.447	ug/l	1.35	1800.00		3808.21	3680.40	3667.06
63 Cu # 2	216.2	216.2	ug/l	0.34	1800.00		636756.06	630192.75	629695.94
66 Zn # 3	196.1	196.1	ug/l	0.36	1800.00		372819.16	377676.34	377147.13
75 As # 2	0.1748	0.1748	ug/l	7.30	100.00		72.00	68.33	63.00
78 Se # 1	0.1246	0.1246	ug/l	21.61	100.00		43.33	55.67	44.67
88 Sr # 3	40.88	40.88	ug/l	0.92	1800.00		955906.00	960725.31	962412.88
95 Mo # 3	0.3607	0.3607	ug/l	1.39	1800.00		1420.10	1396.77	1430.11
107 Ag # 3	0.02433	0.02433	ug/l	4.83	100.00		370.02	350.01	360.01
111 Cd # 3	0.0615	0.0615	ug/l	9.99	100.00		133.03	156.36	133.02
118 Sn # 3	5.774	5.774	ug/l	0.56	1800.00		39993.33	40708.29	40604.68
121 Sb # 3	0.3998	0.3998	ug/l	2.67	100.00		3410.46	3273.75	3333.75
137 Ba # 3	2.159	2.159	ug/l	3.40	1800.00		7598.57	8202.25	7972.11
202 Hg # 3	0.0001629	0.0001629	ug/l	4515.70	5.00		97.68	134.70	98.36
205 Tl # 3	-0.001549	-0.001549	ug/l	45.15	20.00		126.67	156.67	126.67
208 Pb # 3	81.62	81.62	ug/l	0.66	1800.00		2600695.80	2623826.30	2633658.30
232 Th # 3	0.01981	0.01981	ug/l	10.20	#VALUE!		903.39	823.38	786.71
238 U # 3	0.002462	0.002462	ug/l	15.51	#VALUE!		116.67	93.34	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	378825.84	0.17	442436.88	85.6	60 - 125		378299.41	378618.97	379559.13
45 Sc # 1	398741.44	0.49	456299.72	87.4	60 - 125		397422.75	400983.50	397818.09
45 Sc # 3	685984.13	0.34	765061.25	89.7	60 - 125		685517.94	688491.69	683942.75
74 Ge # 1	136097.03	0.94	153441.28	88.7	60 - 125		135985.16	137426.75	134879.17
74 Ge # 2	40961.06	0.84	47804.94	85.7	60 - 125		41322.17	40923.62	40637.39
74 Ge # 3	202894.27	0.40	224564.78	90.3	60 - 125		202049.19	203647.19	202986.42
89 Y # 3	1208236.30	0.75	1302847.50	92.7	60 - 125		1213966.00	1197855.10	1212867.60
115 In # 3	1225651.00	0.83	1366177.60	89.7	60 - 125		1215291.40	1226108.80	1235553.10
159 Tb # 3	1739755.80	0.60	2052817.90	84.7	60 - 125		1731665.80	1751453.80	1736148.00
209 Bi # 3	1045293.40	0.41	1405468.50	74.4	60 - 125		1040433.60	1047033.00	1048413.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\241SMPL.D\241SMPL.D#
 Date Acquired: Aug 27 2014 10:01 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-22-a
 Misc Info: DW
 Vial Number: 2411
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.0006672	0.0006672	ug/l	162.17	100.00		3.33	0.00	3.33
11 B # 3	14.76	14.76	ug/l	9.91	1800.00		21689.08	22313.14	22556.89
23 Na # 1	7388	7388	ug/l	0.29	81000.00		22868236.00	22757914.00	22815526.00
24 Mg # 1	4375	4375	ug/l	0.70	81000.00		9433254.00	9398993.00	9493153.00
27 Al # 1	34.17	34.17	ug/l	0.65	81000.00		89654.93	88014.38	89253.84
39 K # 2	1156	1156	ug/l	0.48	81000.00		371810.78	374682.47	372538.94
40 Ca # 1	16660	16660	ug/l	0.16	81000.00		99360568.00	98528960.00	98392520.00
47 Ti # 3	0.6073	0.6073	ug/l	12.30	1620.00		746.70	773.38	770.04
51 V # 2	9.113	9.113	ug/l	0.71	1800.00		22469.11	22191.00	22445.70
52 Cr # 2	0.1264	0.1264	ug/l	3.04	1800.00		683.35	676.69	664.46
55 Mn # 3	2.104	2.104	ug/l	7.47	1800.00		38871.23	40026.93	40888.85
56 Fe # 1	26.32	26.32	ug/l	0.65	81000.00		207584.66	206513.02	208606.38
59 Co # 3	0.1074	0.1074	ug/l	9.22	1800.00		1496.77	1603.45	1563.44
60 Ni # 2	1.913	1.913	ug/l	1.18	1800.00		2111.25	2125.70	2169.04
63 Cu # 2	6.081	6.081	ug/l	0.70	1800.00		18483.78	18549.39	18812.98
66 Zn # 3	20.69	20.69	ug/l	7.67	1800.00		41006.42	42589.84	43224.66
75 As # 2	0.1678	0.1678	ug/l	0.84	100.00		66.67	67.67	67.33
78 Se # 1	0.1387	0.1387	ug/l	5.85	100.00		53.33	49.00	51.00
88 Sr # 3	40.52	40.52	ug/l	9.70	1800.00		973331.13	999237.19	1008253.40
95 Mo # 3	0.5302	0.5302	ug/l	13.99	1800.00		2086.84	2243.54	2013.50
107 Ag # 3	-0.0006559	-0.0006559	ug/l	240.59	100.00		100.00	106.67	126.67
111 Cd # 3	0.03118	0.03118	ug/l	20.57	100.00		79.54	86.18	66.23
118 Sn # 3	0.09713	0.09713	ug/l	28.71	1800.00		1346.76	1480.11	1303.42
121 Sb # 3	0.1088	0.1088	ug/l	7.29	100.00		1033.40	966.72	933.39
137 Ba # 3	2.581	2.581	ug/l	10.58	1800.00		9419.50	9856.47	10333.47
202 Hg # 3	-0.01382	-0.01382	ug/l	42.63	5.00		59.33	77.00	86.00
205 Tl # 3	-0.003286	-0.003286	ug/l	16.82	20.00		103.34	106.67	90.00
208 Pb # 3	1.001	1.001	ug/l	9.27	1800.00		34442.41	35129.84	35059.62
232 Th # 3	0.005499	0.005499	ug/l	17.89	#VALUE!		436.69	370.02	450.02
238 U # 3	0.003232	0.003232	ug/l	33.73	#VALUE!		113.34	163.34	130.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	400331.19	7.48	442436.88	90.5	60 - 125		433008.91	374200.19	393784.53
45 Sc # 1	399985.91	0.50	456299.72	87.7	60 - 125		402241.50	398518.09	399198.09
45 Sc # 3	738553.81	9.09	765061.25	96.5	60 - 125		813836.25	684778.56	717046.63
74 Ge # 1	135909.36	0.54	153441.28	88.6	60 - 125		136749.41	135404.27	135574.42
74 Ge # 2	41991.49	0.26	47804.94	87.8	60 - 125		41897.95	41967.05	42109.48
74 Ge # 3	214108.58	5.45	224564.78	95.3	60 - 125		226463.61	203271.75	212590.36
89 Y # 3	1268969.30	8.41	1302847.50	97.4	60 - 125		1374786.50	1161440.80	1270680.60
115 In # 3	1284870.00	8.11	1366177.60	94.0	60 - 125		1382047.90	1174892.90	1297669.00
159 Tb # 3	1828043.90	7.94	2052817.90	89.1	60 - 125		1971735.40	1681567.00	1830829.50
209 Bi # 3	1122111.80	9.38	1405468.50	79.8	60 - 125		1235230.40	1026840.10	1104265.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\242_CCV.D\242_CCV.D#
 Date Acquired: Aug 27 2014 10:09 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.23 ug/l	1.24	50.00	89.5 - 110		78175.17	77174.59	77465.84
11 B	96.21 ug/l	0.91	100.00	89.5 - 110		124044.50	123458.52	123587.94
23 Na	5144 ug/l	0.39	5000.00	89.5 - 110		15008425.00	15080955.00	15094791.00
24 Mg	5089 ug/l	0.93	5000.00	89.5 - 110		10334269.00	10347615.00	10510337.00
27 Al	525.9 ug/l	1.11	500.00	89.5 - 110		1261244.40	1282490.90	1285601.40
39 K	5018 ug/l	1.13	5000.00	89.5 - 110		1497784.10	1516104.80	1514340.40
40 Ca	5292 ug/l	0.32	5000.00	89.5 - 110		29649240.00	29775256.00	29732150.00
47 Ti	51.49 ug/l	1.65	50.00	89.5 - 110		50591.68	50194.02	51347.52
51 V	48.89 ug/l	1.26	50.00	89.5 - 110		112499.66	114130.73	114701.71
52 Cr	48.52 ug/l	0.88	50.00	89.5 - 110		135812.58	136525.69	138220.27
55 Mn	508.8 ug/l	0.54	500.00	89.5 - 110		8711023.00	8764128.00	8718971.00
56 Fe	5425 ug/l	0.53	5000.00	89.5 - 110		39550084.00	39735188.00	39941728.00
59 Co	49.52 ug/l	0.66	50.00	89.5 - 110		640031.75	645515.13	644701.06
60 Ni	49.37 ug/l	0.12	50.00	89.5 - 110		51637.14	51208.08	51884.48
63 Cu	48.29 ug/l	0.69	50.00	89.5 - 110		138612.41	138628.39	138539.92
66 Zn	44.98 ug/l	0.61	50.00	89.5 - 110		85079.68	85622.41	85799.59
75 As	48.47 ug/l	1.18	50.00	89.5 - 110		14661.21	14858.37	14872.38
78 Se	46.71 ug/l	0.14	50.00	89.5 - 110		10666.79	10599.09	10706.16
88 Sr	48.54 ug/l	0.85	50.00	89.5 - 110		1142043.50	1134923.40	1142204.30
95 Mo	49.89 ug/l	0.28	50.00	89.5 - 110		179845.67	179691.06	180087.58
107 Ag	48.17 ug/l	0.42	50.00	89.5 - 110		484894.69	485920.56	485430.41
111 Cd	47 ug/l	1.00	50.00	89.5 - 110		101397.26	103160.28	102402.62
118 Sn	48.49 ug/l	0.09	50.00	89.5 - 110		332229.16	331127.00	333690.09
121 Sb	46.75 ug/l	0.53	50.00	89.5 - 110		385336.41	381215.25	383986.50
137 Ba	48.61 ug/l	0.42	50.00	89.5 - 110		176803.56	175832.52	176324.20
202 Hg	2.488 ug/l	0.13	2.50	89.5 - 110		6974.87	6977.54	6988.54
205 Tl	9.188 ug/l	0.53	10.00	89.5 - 110		215197.44	215451.56	214153.09
208 Pb	46.22 ug/l	0.28	50.00	89.5 - 110		1465699.60	1471805.00	1480805.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	371966.91	0.76	442436.88	84.1	60 - 125		371126.22	375121.72	369652.75
45 Sc	378670.38	0.11	456299.72	83.0	60 - 125		379019.31	378220.97	378770.88
45 Sc	668115.25	0.55	765061.25	87.3	60 - 125		666639.75	672268.00	665438.13
74 Ge	131343.41	0.43	153441.28	85.6	60 - 125		131278.89	130816.47	131934.86
74 Ge	40126.61	0.66	47804.94	83.9	60 - 125		40229.82	39824.46	40325.55
74 Ge	200218.59	0.22	224564.78	89.2	60 - 125		200623.84	199762.13	200269.80
89 Y	1208545.50	0.97	1302847.50	92.8	60 - 125		1201332.10	1202217.80	1222086.50
115 In	1216838.00	0.39	1366177.60	89.1	60 - 125		1215177.80	1213137.60	1222198.80
159 Tb	1726595.10	0.23	2052817.90	84.1	60 - 125		1723059.10	1725746.40	1730980.10
209 Bi	1034534.30	0.29	1405468.50	73.6	60 - 125		1037872.50	1033828.50	1031901.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\243_CCB.D\243_CCB.D#
 Date Acquired: Aug 27 2014 10:16 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
9 Be #3	0.00635	0.00635	ug/l	51.06	#VALUE!		16.67	6.67	10.00
11 B #3	1.756	1.756	ug/l	3.53	#VALUE!		4303.91	4223.90	4267.24
23 Na #1	-11.31	-11.31	ug/l	0.43	#VALUE!		46964.18	47549.56	47158.20
24 Mg #1	0.6465	0.6465	ug/l	8.43	#VALUE!		2120.18	2346.87	2173.51
27 Al #1	0.4472	0.4472	ug/l	4.95	#VALUE!		2410.23	2516.90	2413.54
39 K #2	-12.02	-12.02	ug/l	5.59	#VALUE!		7585.05	7755.17	8182.03
40 Ca #1	2.564	2.564	ug/l	2.55	#VALUE!		36031.61	35610.59	35854.68
47 Ti #3	-0.06186	-0.06186	ug/l	20.14	#VALUE!		50.00	33.33	26.67
51 V #2	0.01759	0.01759	ug/l	34.33	#VALUE!		258.89	243.34	236.67
52 Cr #2	-0.009017	-0.009017	ug/l	74.79	#VALUE!		242.23	270.00	285.56
55 Mn #3	0.1294	0.1294	ug/l	33.83	#VALUE!		4347.30	3457.08	2863.65
56 Fe #1	1.606	1.606	ug/l	0.94	#VALUE!		15166.59	15393.45	15476.77
59 Co #3	0.008238	0.008238	ug/l	21.95	#VALUE!		196.67	156.67	156.67
60 Ni #2	0.05172	0.05172	ug/l	7.85	#VALUE!		101.11	100.00	95.56
63 Cu #2	-0.0359	-0.0359	ug/l	15.57	#VALUE!		261.12	292.23	291.12
66 Zn #3	0.07359	0.07359	ug/l	33.76	#VALUE!		763.38	676.70	700.03
75 As #2	0.01865	0.01865	ug/l	16.45	#VALUE!		19.33	17.67	19.67
78 Se #1	-0.03386	-0.03386	ug/l	24.02	#VALUE!		10.67	8.00	11.67
88 Sr #3	0.0114	0.0114	ug/l	22.47	#VALUE!		433.35	456.69	343.35
95 Mo #3	0.02466	0.02466	ug/l	26.29	#VALUE!		220.01	193.34	176.67
107 Ag #3	0.00796	0.00796	ug/l	56.55	#VALUE!		243.34	156.67	183.34
111 Cd #3	0.01396	0.01396	ug/l	47.89	#VALUE!		43.29	46.63	19.96
118 Sn #3	-0.01101	-0.01101	ug/l	45.38	#VALUE!		610.03	546.69	583.36
121 Sb #3	0.0257	0.0257	ug/l	14.93	#VALUE!		256.68	276.68	216.67
137 Ba #3	0.01364	0.01364	ug/l	26.75	#VALUE!		100.00	80.00	76.67
202 Hg #3	0.004903	0.004903	ug/l	29.74	#VALUE!		128.00	120.33	122.67
205 Tl #3	-0.0002385	-0.0002385	ug/l	642.35	#VALUE!		173.34	130.01	200.01
208 Pb #3	-0.015	-0.015	ug/l	18.31	#VALUE!		866.71	763.36	686.70

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1(cps)	Rep2(cps)	Rep3(cps)
6 Li #3	371831.75	0.94	442436.88	84.0	60 - 125		367828.63	374266.03	373400.66
45 Sc #1	374676.56	0.44	456299.72	82.1	60 - 125		372862.50	376039.06	375128.13
45 Sc #3	658674.31	0.17	765061.25	86.1	60 - 125		657652.13	658533.44	659837.38
74 Ge #1	131624.23	0.50	153441.28	85.8	60 - 125		131323.58	131168.95	132380.19
74 Ge #2	40456.95	1.39	47804.94	84.6	60 - 125		40109.48	40155.13	41106.24
74 Ge #3	200928.30	0.34	224564.78	89.5	60 - 125		200326.81	201659.06	200799.02
89 Y #3	1194150.30	0.25	1302847.50	91.7	60 - 125		1191676.10	1197421.00	1193353.60
115 In #3	1229968.00	0.88	1366177.60	90.0	60 - 125		1218972.30	1230381.10	1240550.90
159 Tb #3	1744223.50	0.52	2052817.90	85.0	60 - 125		1745783.60	1752483.50	1734403.50
209 Bi #3	1067932.80	0.44	1405468.50	76.0	60 - 125		1066963.40	1063845.00	1072990.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\244SMPL.D\244SMPL.D#
 Date Acquired: Aug 27 2014 10:24 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-18-a
 Misc Info: DW
 Vial Number: 2412
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.005575	0.005575	ug/l	37.67	100.00		10.00	13.33	6.67
11 B # 3	14.45	14.45	ug/l	3.09	1800.00		20624.66	20818.17	20247.52
23 Na # 1	7250	7250	ug/l	0.49	81000.00		21975310.00	21781486.00	21670440.00
24 Mg # 1	4277	4277	ug/l	0.34	81000.00		9014292.00	9002648.00	8954448.00
27 Al # 1	29.55	29.55	ug/l	0.52	81000.00		75752.79	74571.27	75157.12
39 K # 2	1125	1125	ug/l	0.32	81000.00		348728.50	353487.72	355585.50
40 Ca # 1	16310	16310	ug/l	0.38	81000.00		94177120.00	93991584.00	94493696.00
47 Ti # 3	0.6437	0.6437	ug/l	2.21	1620.00		733.37	760.04	740.03
51 V # 2	9.239	9.239	ug/l	0.15	1800.00		21818.35	22087.53	22100.88
52 Cr # 2	0.114	0.114	ug/l	3.43	1800.00		622.24	607.79	627.80
55 Mn # 3	0.7212	0.7212	ug/l	3.61	1800.00		14175.73	13745.43	13698.68
56 Fe # 1	17.63	17.63	ug/l	0.42	81000.00		136627.78	136494.48	137145.56
59 Co # 3	0.03445	0.03445	ug/l	5.25	1800.00		523.36	490.02	536.69
60 Ni # 2	0.4102	0.4102	ug/l	1.72	1800.00		476.68	487.79	474.45
63 Cu # 2	13.46	13.46	ug/l	1.16	1800.00		39731.54	39296.18	39531.05
66 Zn # 3	12.43	12.43	ug/l	1.58	1800.00		23879.46	24086.32	25097.53
75 As # 2	0.176	0.176	ug/l	8.97	100.00		62.33	68.00	73.00
78 Se # 1	0.1152	0.1152	ug/l	22.79	100.00		51.67	40.67	42.00
88 Sr # 3	39.51	39.51	ug/l	0.83	1800.00		910840.81	935208.63	931921.94
95 Mo # 3	0.5113	0.5113	ug/l	8.67	1800.00		1893.49	1870.16	2166.86
107 Ag # 3	0.02045	0.02045	ug/l	15.63	100.00		293.35	363.35	313.35
111 Cd # 3	0.01519	0.01519	ug/l	33.93	100.00		32.92	32.92	52.86
118 Sn # 3	-0.006956	-0.006956	ug/l	145.92	1800.00		673.37	546.69	610.03
121 Sb # 3	0.1092	0.1092	ug/l	11.08	100.00		856.71	920.05	1063.40
137 Ba # 3	2.44	2.44	ug/l	2.32	1800.00		8972.64	8865.92	9206.10
202 Hg # 3	-0.01296	-0.01296	ug/l	11.87	5.00		67.67	75.33	77.33
205 Tl # 3	-0.003469	-0.003469	ug/l	16.52	20.00		93.34	76.67	103.34
208 Pb # 3	0.7958	0.7958	ug/l	0.86	1800.00		26472.83	26586.35	27036.57
232 Th # 3	0.01808	0.01808	ug/l	7.07	#VALUE!		780.05	850.05	770.05
238 U # 3	0.005079	0.005079	ug/l	17.27	#VALUE!		206.67	210.01	160.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	376622.28	1.52	442436.88	85.1	60 - 125		371956.00	374894.41	383016.44
45 Sc # 1	389597.81	0.29	456299.72	85.4	60 - 125		390885.69	388711.94	389195.81
45 Sc # 3	680622.31	0.87	765061.25	89.0	60 - 125		674947.69	680176.13	686743.25
74 Ge # 1	133560.78	0.67	153441.28	87.0	60 - 125		133243.97	132868.02	134570.38
74 Ge # 2	40746.50	0.69	47804.94	85.2	60 - 125		40432.45	40833.38	40973.68
74 Ge # 3	202830.81	1.40	224564.78	90.3	60 - 125		199849.70	203147.94	205494.78
89 Y # 3	1206182.90	1.34	1302847.50	92.6	60 - 125		1189690.30	1206928.30	1221930.30
115 In # 3	1234754.90	1.17	1366177.60	90.4	60 - 125		1218682.50	1246838.40	1238743.80
159 Tb # 3	1734721.10	1.18	2052817.90	84.5	60 - 125		1711342.60	1743818.90	1749001.60
209 Bi # 3	1066729.40	1.28	1405468.50	75.9	60 - 125		1050948.40	1074056.40	1075183.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\245SMPL.D\245SMPL.D#
 Date Acquired: Aug 27 2014 10:31 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-12-a
 Misc Info: DW
 Vial Number: 2501
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD (%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.002681	0.002681	ug/l	83.10	100.00		3.33	3.33	10.00
11 B # 3	15.03	15.03	ug/l	0.32	1800.00		21982.80	22293.19	22393.29
23 Na # 1	7155	7155	ug/l	5.20	81000.00		23344696.00	23067462.00	23316622.00
24 Mg # 1	4205	4205	ug/l	4.51	81000.00		9512027.00	9505503.00	9618952.00
27 Al # 1	29.6	29.6	ug/l	4.27	81000.00		80689.48	81104.65	82108.52
39 K # 2	1161	1161	ug/l	0.81	81000.00		376613.28	378257.38	380692.41
40 Ca # 1	16020	16020	ug/l	4.56	81000.00		99153120.00	100529740.00	100136460.00
47 Ti # 3	0.777	0.777	ug/l	4.67	1620.00		963.39	923.38	926.72
51 V # 2	9.578	9.578	ug/l	0.69	1800.00		23607.19	23802.98	23849.66
52 Cr # 2	0.1131	0.1131	ug/l	6.80	1800.00		631.13	671.13	625.57
55 Mn # 3	0.4063	0.4063	ug/l	0.98	1800.00		8825.67	9002.39	8778.94
56 Fe # 1	15.78	15.78	ug/l	5.41	81000.00		132082.30	133935.05	131651.25
59 Co # 3	0.03208	0.03208	ug/l	6.19	1800.00		513.36	486.69	536.69
60 Ni # 2	0.7089	0.7089	ug/l	3.41	1800.00		831.14	804.47	852.25
63 Cu # 2	15.64	15.64	ug/l	0.93	1800.00		47413.89	47772.63	48100.15
66 Zn # 3	11.83	11.83	ug/l	0.71	1800.00		24333.20	24576.92	24580.25
75 As # 2	0.1835	0.1835	ug/l	4.87	100.00		70.00	76.00	73.00
78 Se # 1	0.1217	0.1217	ug/l	8.90	100.00		48.67	46.33	51.33
88 Sr # 3	40.56	40.56	ug/l	1.38	1800.00		1009023.90	1003908.80	1007840.70
95 Mo # 3	0.5295	0.5295	ug/l	4.72	1800.00		2203.55	2070.17	2136.86
107 Ag # 3	0.01938	0.01938	ug/l	5.28	100.00		310.01	340.01	330.01
111 Cd # 3	0.0105	0.0105	ug/l	46.59	100.00		19.52	42.88	29.53
118 Sn # 3	-0.02696	-0.02696	ug/l	7.23	1800.00		493.36	483.35	503.36
121 Sb # 3	0.1142	0.1142	ug/l	0.95	100.00		1010.06	1056.74	1033.40
137 Ba # 3	2.492	2.492	ug/l	2.15	1800.00		9552.94	9526.26	9816.41
202 Hg # 3	-0.01686	-0.01686	ug/l	2.75	5.00		63.33	66.33	66.33
205 Tl # 3	-0.004445	-0.004445	ug/l	15.54	20.00		90.00	63.34	60.00
208 Pb # 3	0.5806	0.5806	ug/l	0.73	1800.00		20469.13	20695.89	20885.97
232 Th # 3	0.0093	0.0093	ug/l	10.37	#VALUE!		586.70	550.03	533.36
238 U # 3	0.003757	0.003757	ug/l	15.81	#VALUE!		166.67	136.67	173.34

ISTD Elements

Element	CPS Mean	RSD (%)	Ref Value	Rec (%)	QC Range (%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	392613.53	0.95	442436.88	88.7	60 - 125		388897.28	392556.81	396386.53
45 Sc # 1	421427.09	5.04	456299.72	92.4	60 - 125		400331.63	421130.06	442819.63
45 Sc # 3	727410.75	2.00	765061.25	95.1	60 - 125		713648.81	726005.38	742578.19
74 Ge # 1	140772.91	2.68	153441.28	91.7	60 - 125		136441.53	142587.52	143289.69
74 Ge # 2	42443.67	0.33	47804.94	88.8	60 - 125		42443.59	42582.92	42304.49
74 Ge # 3	214041.36	0.51	224564.78	95.3	60 - 125		213787.84	215237.05	213099.22
89 Y # 3	1277875.90	1.12	1302847.50	98.1	60 - 125		1266212.10	1293897.40	1273518.30
115 In # 3	1291685.10	1.35	1366177.60	94.5	60 - 125		1273566.90	1308407.00	1293081.60
159 Tb # 3	1810424.50	0.63	2052817.90	88.2	60 - 125		1797682.00	1819750.00	1813841.60
209 Bi # 3	1142647.10	1.36	1405468.50	81.3	60 - 125		1127451.10	1158560.60	1141929.80

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\246SMPL.D\246SMPL.D#
 Date Acquired: Aug 27 2014 10:38 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-50-a
 Misc Info: DW
 Vial Number: 2502
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	8.6E-005	8.6E-005	ug/l	1338.40	100.00		0.00	3.33	0.00
11 B #3	14.6	14.6	ug/l	0.65	1800.00		21145.20	21388.82	21592.34
23 Na #1	7401	7401	ug/l	0.25	81000.00		23006416.00	23026782.00	23027122.00
24 Mg #1	4344	4344	ug/l	0.24	81000.00		9414231.00	9494075.00	9417724.00
27 Al #1	4.396	4.396	ug/l	1.03	81000.00		12711.13	12817.92	12921.31
39 K #2	1161	1161	ug/l	1.08	81000.00		370811.13	370910.41	373100.56
40 Ca #1	16980	16980	ug/l	0.39	81000.00		101002120.00	101543700.00	101623900.00
47 Ti #3	0.5741	0.5741	ug/l	6.39	1620.00		663.36	683.37	746.70
51 V #2	1.995	1.995	ug/l	3.25	1800.00		5114.07	4884.01	5061.83
52 Cr #2	0.01537	0.01537	ug/l	50.61	1800.00		370.01	332.23	332.23
55 Mn #3	10.67	10.67	ug/l	0.84	1800.00		192531.25	190944.47	193766.42
56 Fe #1	72.94	72.94	ug/l	0.24	81000.00		573279.69	574162.19	569868.56
59 Co #3	0.5653	0.5653	ug/l	2.66	1800.00		7831.87	7505.05	7845.23
60 Ni #2	60.53	60.53	ug/l	1.01	1800.00		65662.07	65452.51	65738.02
63 Cu #2	55.06	55.06	ug/l	0.79	1800.00		164378.30	163905.52	163617.38
66 Zn #3	221.5	221.5	ug/l	0.23	1800.00		433458.53	436285.03	440860.03
75 As #2	0.1934	0.1934	ug/l	8.58	100.00		78.33	77.67	68.33
78 Se #1	0.1454	0.1454	ug/l	3.68	100.00		52.00	53.33	53.67
88 Sr #3	42.05	42.05	ug/l	0.08	1800.00		999439.69	1009219.30	1031933.80
95 Mo #3	0.4997	0.4997	ug/l	3.32	1800.00		2033.50	1926.84	1966.82
107 Ag #3	0.004923	0.004923	ug/l	70.02	100.00		200.01	130.00	173.34
111 Cd #3	0.09952	0.09952	ug/l	5.56	100.00		236.23	239.59	216.24
118 Sn #3	0.02168	0.02168	ug/l	20.67	1800.00		790.04	860.05	830.04
121 Sb #3	1.015	1.015	ug/l	0.90	100.00		8572.37	8792.48	8642.41
137 Ba #3	2.193	2.193	ug/l	2.86	1800.00		8178.90	8118.87	8539.02
202 Hg #3	-0.01146	-0.01146	ug/l	126.88	5.00		56.00	126.69	55.00
205 Tl #3	-0.000494	-0.000494	ug/l	37.63	20.00		166.67	166.67	160.01
208 Pb #3	62.88	62.88	ug/l	1.89	1800.00		2016053.90	2044090.00	2107657.00
232 Th #3	0.006682	0.006682	ug/l	31.61	#VALUE!		493.36	363.35	456.69
238 U #3	0.001221	0.001221	ug/l	33.28	#VALUE!		76.67	50.00	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	387786.13	0.59	442436.88	87.6	60 - 125		386233.16	386690.66	390434.56
45 Sc #1	402895.91	0.26	456299.72	88.3	60 - 125		402552.00	404065.22	402070.53
45 Sc #3	703687.56	1.02	765061.25	92.0	60 - 125		695487.19	706582.00	708993.44
74 Ge #1	136738.05	0.74	153441.28	89.1	60 - 125		137853.66	136496.48	135864.02
74 Ge #2	41645.94	0.78	47804.94	87.1	60 - 125		41540.55	42011.58	41385.67
74 Ge #3	208885.94	0.71	224564.78	93.0	60 - 125		207328.53	209055.20	210274.08
89 Y #3	1240509.80	1.56	1302847.50	95.2	60 - 125		1224175.60	1235379.00	1261974.80
115 In #3	1261187.00	0.41	1366177.60	92.3	60 - 125		1256163.00	1266505.50	1260892.40
159 Tb #3	1772125.60	0.39	2052817.90	86.3	60 - 125		1766537.00	1770032.00	1779807.50
209 Bi #3	1070126.00	0.18	1405468.50	76.1	60 - 125		1070005.30	1072120.40	1068252.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\247SMPL.D\247SMPL.D#
 Date Acquired: Aug 27 2014 10:46 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-17-a
 Misc Info: DW
 Vial Number: 2503
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.006629	0.006629	ug/l	84.67	100.00		6.67	23.33	6.67
11 B # 3	14.5	14.5	ug/l	1.19	1800.00		21295.45	21365.48	21518.95
23 Na # 1	7312	7312	ug/l	0.29	81000.00		22347816.00	22307950.00	22505376.00
24 Mg # 1	4335	4335	ug/l	0.98	81000.00		9330959.00	9221369.00	9269613.00
27 Al # 1	31.37	31.37	ug/l	0.70	81000.00		81308.63	80819.59	81161.04
39 K # 2	1141	1141	ug/l	12.42	81000.00		353755.50	361202.75	372742.66
40 Ca # 1	16830	16830	ug/l	0.26	81000.00		98428088.00	99028184.00	99292448.00
47 Ti # 3	0.6138	0.6138	ug/l	4.71	1620.00		773.37	800.04	710.03
51 V # 2	9.054	9.054	ug/l	13.23	1800.00		21881.71	21228.77	22436.86
52 Cr # 2	0.1208	0.1208	ug/l	27.38	1800.00		566.68	687.80	692.24
55 Mn # 3	4.214	4.214	ug/l	0.90	1800.00		76725.35	78602.95	77199.98
56 Fe # 1	414.7	414.7	ug/l	0.39	81000.00		3156681.50	3182188.80	3217714.50
59 Co # 3	0.1507	0.1507	ug/l	2.71	1800.00		2093.52	2100.18	2186.86
60 Ni # 2	5.418	5.418	ug/l	14.43	1800.00		5790.95	5657.57	6128.83
63 Cu # 2	46.03	46.03	ug/l	12.44	1800.00		134012.56	134255.23	139835.17
66 Zn # 3	98.57	98.57	ug/l	0.13	1800.00		196349.41	197345.59	195940.84
75 As # 2	0.1847	0.1847	ug/l	15.11	100.00		68.67	71.67	74.00
78 Se # 1	0.1275	0.1275	ug/l	1.90	100.00		48.33	48.67	48.00
88 Sr # 3	40.05	40.05	ug/l	1.00	1800.00		965291.25	994069.25	975249.88
95 Mo # 3	0.4042	0.4042	ug/l	6.60	1800.00		1726.80	1586.79	1613.46
107 Ag # 3	0.01798	0.01798	ug/l	8.91	100.00		310.01	330.01	286.68
111 Cd # 3	0.03842	0.03842	ug/l	19.97	100.00		112.96	86.32	82.98
118 Sn # 3	2.868	2.868	ug/l	1.47	1800.00		20946.48	21573.93	21430.36
121 Sb # 3	0.1555	0.1555	ug/l	5.15	100.00		1440.10	1380.10	1320.09
137 Ba # 3	2.554	2.554	ug/l	2.71	1800.00		9749.71	9709.74	9876.43
202 Hg # 3	-0.0218	-0.0218	ug/l	4.10	5.00		53.00	51.67	48.00
205 Tl # 3	-0.004755	-0.004755	ug/l	10.48	20.00		76.67	56.67	56.67
208 Pb # 3	27.98	27.98	ug/l	1.22	1800.00		930458.13	935993.50	931249.56
232 Th # 3	0.008163	0.008163	ug/l	9.53	#VALUE!		526.69	506.70	510.03
238 U # 3	0.003147	0.003147	ug/l	7.00	#VALUE!		143.34	143.34	123.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	390392.19	0.81	442436.88	88.2	60 - 125		388612.78	394058.28	388505.50
45 Sc # 1	396549.19	0.58	456299.72	86.9	60 - 125		394568.97	395982.94	399095.66
45 Sc # 3	724767.50	3.21	765061.25	94.7	60 - 125		714169.00	751419.25	708714.13
74 Ge # 1	135528.33	0.50	153441.28	88.3	60 - 125		135770.25	134761.48	136053.23
74 Ge # 2	41669.51	10.75	47804.94	87.2	60 - 125		40628.42	46577.38	37802.74
74 Ge # 3	210781.31	0.39	224564.78	93.9	60 - 125		210270.28	211728.06	210345.58
89 Y # 3	1256879.00	1.58	1302847.50	96.5	60 - 125		1251895.10	1278746.60	1239995.50
115 In # 3	1280187.50	2.08	1366177.60	93.7	60 - 125		1262829.10	1310904.60	1266828.80
159 Tb # 3	1805501.00	1.55	2052817.90	88.0	60 - 125		1787452.60	1837712.60	1791337.50
209 Bi # 3	1136161.50	4.30	1405468.50	80.8	60 - 125		1130355.10	1187718.80	1090410.90

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\248SMPL.D\248SMPL.D#
 Date Acquired: Aug 27 2014 10:53 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-45-a
 Misc Info: DW
 Vial Number: 2504
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.653E-005	9.653E-005	ug/l	1211.00	100.00		3.33	0.00	0.00
11 B # 3	14.69	14.69	ug/l	1.78	1800.00		21098.51	20784.69	21422.14
23 Na # 1	7328	7328	ug/l	0.98	81000.00		22264384.00	22473926.00	22616180.00
24 Mg # 1	4201	4201	ug/l	0.69	81000.00		8941513.00	9019553.00	9021507.00
27 Al # 1	7.051	7.051	ug/l	2.27	81000.00		19849.33	19293.45	18973.14
39 K # 2	1128	1128	ug/l	1.24	81000.00		355546.25	354355.19	362692.03
40 Ca # 1	16250	16250	ug/l	0.53	81000.00		95279520.00	95549448.00	95947688.00
47 Ti # 3	0.6434	0.6434	ug/l	8.93	1620.00		726.70	720.03	830.04
51 V # 2	5.97	5.97	ug/l	1.43	1800.00		14306.67	14364.46	14703.62
52 Cr # 2	-0.01506	-0.01506	ug/l	28.88	1800.00		244.45	267.78	247.78
55 Mn # 3	11.66	11.66	ug/l	1.76	1800.00		203553.09	207263.44	209125.63
56 Fe # 1	711.9	711.9	ug/l	0.50	81000.00		5463864.00	5497423.50	5446369.50
59 Co # 3	0.09813	0.09813	ug/l	9.91	1800.00		1236.74	1386.76	1493.44
60 Ni # 2	43.14	43.14	ug/l	0.28	1800.00		46287.53	46168.49	46462.49
63 Cu # 2	70.36	70.36	ug/l	0.34	1800.00		206353.39	207435.02	208115.09
66 Zn # 3	54.74	54.74	ug/l	0.23	1800.00		106906.25	105696.11	107396.06
75 As # 2	0.2061	0.2061	ug/l	14.35	100.00		71.33	74.00	88.67
78 Se # 1	0.1049	0.1049	ug/l	14.61	100.00		38.67	45.00	45.33
88 Sr # 3	36.23	36.23	ug/l	0.43	1800.00		861481.63	856046.75	862027.19
95 Mo # 3	0.6033	0.6033	ug/l	2.81	1800.00		2393.57	2346.89	2296.89
107 Ag # 3	0.006206	0.006206	ug/l	28.20	100.00		183.34	160.01	196.67
111 Cd # 3	0.002999	0.002999	ug/l	48.62	100.00		9.47	12.82	16.16
118 Sn # 3	3.336	3.336	ug/l	1.32	1800.00		24360.98	23967.14	24127.41
121 Sb # 3	0.2387	0.2387	ug/l	5.66	100.00		2166.87	1960.17	2030.17
137 Ba # 3	1.778	1.778	ug/l	0.99	1800.00		6581.46	6744.84	6684.81
202 Hg # 3	-0.01754	-0.01754	ug/l	16.25	5.00		54.67	70.67	59.67
205 Tl # 3	-0.003989	-0.003989	ug/l	19.40	20.00		93.34	86.67	60.00
208 Pb # 3	13.03	13.03	ug/l	0.73	1800.00		422653.00	424547.06	426304.56
232 Th # 3	0.009039	0.009039	ug/l	3.90	#VALUE!		520.03	500.03	520.03
238 U # 3	0.001989	0.001989	ug/l	36.67	#VALUE!		96.67	110.00	63.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	380623.78	0.09	442436.88	86.0	60 - 125		380655.72	380958.91	380256.72
45 Sc # 1	396856.38	0.19	456299.72	87.0	60 - 125		397696.06	396619.41	396253.69
45 Sc # 3	693987.13	0.46	765061.25	90.7	60 - 125		690738.63	694081.75	697140.94
74 Ge # 1	135440.25	0.38	153441.28	88.3	60 - 125		134845.47	135763.34	135711.94
74 Ge # 2	41221.95	0.09	47804.94	86.2	60 - 125		41184.11	41225.23	41256.52
74 Ge # 3	205463.06	0.90	224564.78	91.5	60 - 125		206458.88	203333.63	206596.69
89 Y # 3	1221394.30	0.47	1302847.50	93.7	60 - 125		1217766.50	1218331.00	1228085.30
115 In # 3	1252182.60	0.62	1366177.60	91.7	60 - 125		1244506.30	1252112.50	1259929.10
159 Tb # 3	1761626.90	1.16	2052817.90	85.8	60 - 125		1741326.90	1761291.00	1782262.90
209 Bi # 3	1070365.40	0.43	1405468.50	76.2	60 - 125		1066498.40	1069189.30	1075408.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\249SMPL.D\249SMPL.D#
 Date Acquired: Aug 27 2014 11:00 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-40-a
 Misc Info: DW
 Vial Number: 2505
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	-0.0005782	-0.0005782	ug/l	0.00	100.00		0.00	0.00	0.00
11 B # 3	14.96	14.96	ug/l	0.46	1800.00		21552.31	21558.96	21842.65
23 Na # 1	7630	7630	ug/l	10.38	81000.00		22469882.00	23184006.00	22931956.00
24 Mg # 1	4495	4495	ug/l	9.81	81000.00		9314887.00	9505731.00	9429347.00
27 Al # 1	23.09	23.09	ug/l	10.12	81000.00		58402.71	59559.31	58509.34
39 K # 2	1145	1145	ug/l	0.21	81000.00		365768.00	367139.06	366451.03
40 Ca # 1	17170	17170	ug/l	10.04	81000.00		97341928.00	99852800.00	99216528.00
47 Ti # 3	0.6818	0.6818	ug/l	11.94	1620.00		713.36	883.38	833.38
51 V # 2	8.071	8.071	ug/l	1.10	1800.00		19549.15	19921.81	19522.48
52 Cr # 2	0.1023	0.1023	ug/l	7.04	1800.00		586.68	586.68	622.24
55 Mn # 3	4.339	4.339	ug/l	1.42	1800.00		78153.97	79365.52	78739.70
56 Fe # 1	56.01	56.01	ug/l	9.98	81000.00		419669.47	428914.22	424954.16
59 Co # 3	0.04473	0.04473	ug/l	4.65	1800.00		646.70	696.70	663.36
60 Ni # 2	3.858	3.858	ug/l	0.73	1800.00		4194.96	4256.08	4219.41
63 Cu # 2	13.59	13.59	ug/l	0.55	1800.00		40997.58	40780.41	40497.58
66 Zn # 3	9.773	9.773	ug/l	1.07	1800.00		19597.63	19467.44	20268.31
75 As # 2	0.1602	0.1602	ug/l	17.19	100.00		71.00	67.33	54.33
78 Se # 1	0.1278	0.1278	ug/l	6.42	100.00		50.33	47.00	46.33
88 Sr # 3	40.72	40.72	ug/l	1.04	1800.00		970549.13	985616.44	1002543.00
95 Mo # 3	0.5364	0.5364	ug/l	1.53	1800.00		2123.52	2066.85	2183.53
107 Ag # 3	0.0002611	0.0002611	ug/l	916.12	100.00		100.00	110.00	150.01
111 Cd # 3	0.007829	0.007829	ug/l	56.60	100.00		32.87	12.88	26.19
118 Sn # 3	-0.02254	-0.02254	ug/l	30.45	1800.00		476.69	563.36	506.69
121 Sb # 3	0.1031	0.1031	ug/l	3.14	100.00		926.72	930.05	900.05
137 Ba # 3	2.457	2.457	ug/l	2.16	1800.00		9279.52	9416.22	9262.76
202 Hg # 3	-0.02099	-0.02099	ug/l	11.95	5.00		44.33	56.00	58.00
205 Tl # 3	-0.005192	-0.005192	ug/l	7.90	20.00		63.34	46.67	46.67
208 Pb # 3	5.464	5.464	ug/l	1.62	1800.00		180250.64	180195.48	184100.88
232 Th # 3	0.001871	0.001871	ug/l	37.22	#VALUE!		293.35	270.01	313.35
238 U # 3	0.001913	0.001913	ug/l	15.40	#VALUE!		83.34	86.67	100.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	384257.25	1.17	442436.88	86.9	60 - 125		381132.06	382229.31	389410.41
45 Sc # 1	390480.09	8.71	456299.72	85.6	60 - 125		423466.50	355505.00	392468.75
45 Sc # 3	704250.31	0.76	765061.25	92.1	60 - 125		699400.19	703370.94	709979.81
74 Ge # 1	134202.00	4.72	153441.28	87.5	60 - 125		139648.03	127260.55	135697.42
74 Ge # 2	41629.55	0.08	47804.94	87.1	60 - 125		41648.50	41649.65	41590.52
74 Ge # 3	208122.92	1.16	224564.78	92.7	60 - 125		206721.20	206741.64	210905.94
89 Y # 3	1246721.40	2.56	1302847.50	95.7	60 - 125		1220783.10	1236945.10	1282435.90
115 In # 3	1268014.00	1.30	1366177.60	92.8	60 - 125		1267887.30	1251633.80	1284520.80
159 Tb # 3	1789225.10	0.75	2052817.90	87.2	60 - 125		1778363.10	1804293.80	1785019.10
209 Bi # 3	1101606.40	1.84	1405468.50	78.4	60 - 125		1124806.50	1092274.40	1087738.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\250SMPL.D\250SMPL.D#
 Date Acquired: Aug 27 2014 11:08 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-39-a
 Misc Info: DW
 Vial Number: 2506
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.003486	0.003486	ug/l	58.52	100.00		6.67	10.00	3.33
11 B # 3	14.51	14.51	ug/l	1.08	1800.00		20494.40	20991.58	20951.74
23 Na # 1	7457	7457	ug/l	0.46	81000.00		22876182.00	22792768.00	22709922.00
24 Mg # 1	4411	4411	ug/l	0.17	81000.00		9438822.00	9407052.00	9418350.00
27 Al # 1	7.965	7.965	ug/l	1.34	81000.00		21966.39	21522.53	21442.45
39 K # 2	1155	1155	ug/l	1.04	81000.00		361775.09	365929.44	369755.34
40 Ca # 1	17020	17020	ug/l	0.18	81000.00		100204880.00	99573096.00	99881104.00
47 Ti # 3	0.6304	0.6304	ug/l	4.67	1620.00		750.04	710.04	780.04
51 V # 2	3.667	3.667	ug/l	1.63	1800.00		8799.89	8971.10	9097.84
52 Cr # 2	0.06368	0.06368	ug/l	12.62	1800.00		454.45	496.68	491.12
55 Mn # 3	23.87	23.87	ug/l	0.14	1800.00		417736.13	421533.75	423139.69
56 Fe # 1	89	89	ug/l	0.53	81000.00		686328.13	687250.81	683095.63
59 Co # 3	0.08147	0.08147	ug/l	4.00	1800.00		1153.40	1100.06	1190.08
60 Ni # 2	9.739	9.739	ug/l	1.69	1800.00		10318.49	10436.35	10695.40
63 Cu # 2	47.61	47.61	ug/l	0.54	1800.00		139539.72	140008.61	141379.66
66 Zn # 3	27.29	27.29	ug/l	0.14	1800.00		52967.01	53441.78	53672.52
75 As # 2	0.1577	0.1577	ug/l	6.29	100.00		66.33	61.33	60.67
78 Se # 1	0.1218	0.1218	ug/l	6.21	100.00		46.67	45.33	49.00
88 Sr # 3	43.02	43.02	ug/l	0.38	1800.00		1015892.30	1020768.30	1027731.90
95 Mo # 3	0.4989	0.4989	ug/l	2.85	1800.00		2023.50	1910.18	1930.16
107 Ag # 3	0.002597	0.002597	ug/l	69.23	100.00		130.00	163.34	133.34
111 Cd # 3	0.01349	0.01349	ug/l	18.99	100.00		39.56	29.58	39.58
118 Sn # 3	0.4779	0.4779	ug/l	182.00	1800.00		530.03	11060.44	463.35
121 Sb # 3	0.1683	0.1683	ug/l	5.41	100.00		1406.77	1540.12	1416.77
137 Ba # 3	1.948	1.948	ug/l	2.40	1800.00		7271.75	7138.39	7458.52
202 Hg # 3	-0.01972	-0.01972	ug/l	6.10	5.00		54.67	59.00	53.33
205 Tl # 3	-0.00535	-0.00535	ug/l	8.18	20.00		36.67	56.67	50.00
208 Pb # 3	18.47	18.47	ug/l	0.61	1800.00		601839.56	601285.94	606012.63
232 Th # 3	0.0003709	0.0003709	ug/l	152.22	#VALUE!		246.68	263.35	230.01
238 U # 3	0.001359	0.001359	ug/l	0.96	#VALUE!		70.00	73.34	73.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	379691.25	0.63	442436.88	85.8	60 - 125		377546.56	379271.19	382255.97
45 Sc # 1	395900.09	0.25	456299.72	86.8	60 - 125		396404.34	394764.75	396531.09
45 Sc # 3	694957.38	0.71	765061.25	90.8	60 - 125		696896.81	689356.19	698619.19
74 Ge # 1	135532.97	0.51	153441.28	88.3	60 - 125		136206.78	134832.27	135559.86
74 Ge # 2	41199.04	0.27	47804.94	86.2	60 - 125		41207.55	41083.95	41305.61
74 Ge # 3	205027.98	0.56	224564.78	91.3	60 - 125		203845.59	205113.53	206124.81
89 Y # 3	1221978.90	0.86	1302847.50	93.8	60 - 125		1210277.10	1225004.50	1230655.00
115 In # 3	1249419.90	0.44	1366177.60	91.5	60 - 125		1255614.90	1247616.00	1245028.90
159 Tb # 3	1767060.00	0.77	2052817.90	86.1	60 - 125		1774419.80	1751388.10	1775372.30
209 Bi # 3	1119501.10	3.22	1405468.50	79.7	60 - 125		1078007.00	1136809.40	1143687.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\251SMPL.D\251SMPL.D#
 Date Acquired: Aug 27 2014 11:15 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-2-a
 Misc Info: DW
 Vial Number: 2507
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	9.686E-005	9.686E-005	ug/l	1206.90	100.00		0.00	3.33	0.00
11 B # 3	14.22	14.22	ug/l	1.13	1800.00		20451.13	20608.02	20154.23
23 Na # 1	7152	7152	ug/l	0.41	81000.00		21841006.00	21793898.00	21841504.00
24 Mg # 1	4262	4262	ug/l	0.29	81000.00		9106065.00	9056571.00	9105067.00
27 Al # 1	14.29	14.29	ug/l	1.06	81000.00		37340.22	37243.35	38241.97
39 K # 2	1093	1093	ug/l	0.97	81000.00		342145.41	346984.31	348988.06
40 Ca # 1	16060	16060	ug/l	0.28	81000.00		94006656.00	93394808.00	94877888.00
47 Ti # 3	0.6367	0.6367	ug/l	3.49	1620.00		770.04	723.37	760.04
51 V # 2	7.745	7.745	ug/l	1.46	1800.00		18433.60	18805.64	18698.33
52 Cr # 2	0.1187	0.1187	ug/l	13.61	1800.00		688.91	602.24	624.46
55 Mn # 3	3.328	3.328	ug/l	1.25	1800.00		59726.21	59572.23	60288.28
56 Fe # 1	39.88	39.88	ug/l	0.83	81000.00		308255.25	310028.56	308259.50
59 Co # 3	0.03208	0.03208	ug/l	10.03	1800.00		490.02	536.69	446.68
60 Ni # 2	4.353	4.353	ug/l	1.94	1800.00		4642.85	4598.39	4865.12
63 Cu # 2	50.94	50.94	ug/l	0.73	1800.00		148679.61	149847.67	150865.92
66 Zn # 3	193	193	ug/l	0.58	1800.00		373611.59	374691.59	373706.97
75 As # 2	0.1699	0.1699	ug/l	9.12	100.00		66.33	70.67	62.33
78 Se # 1	0.1356	0.1356	ug/l	6.33	100.00		52.00	48.67	49.33
88 Sr # 3	38.43	38.43	ug/l	2.47	1800.00		918504.56	886439.06	926204.75
95 Mo # 3	0.4964	0.4964	ug/l	3.21	1800.00		1886.82	2020.18	1933.49
107 Ag # 3	0.0006553	0.0006553	ug/l	399.36	100.00		106.67	106.67	153.34
111 Cd # 3	0.05622	0.05622	ug/l	17.37	100.00		156.26	122.89	116.25
118 Sn # 3	-0.004948	-0.004948	ug/l	96.26	1800.00		646.70	596.70	653.36
121 Sb # 3	0.09374	0.09374	ug/l	7.37	100.00		776.71	896.72	810.04
137 Ba # 3	2.267	2.267	ug/l	0.37	1800.00		8428.98	8515.74	8509.05
202 Hg # 3	-0.02161	-0.02161	ug/l	4.53	5.00		47.67	52.33	52.00
205 Tl # 3	-0.004904	-0.004904	ug/l	17.87	20.00		46.67	46.67	83.34
208 Pb # 3	0.4698	0.4698	ug/l	1.71	1800.00		16530.57	16894.17	16637.27
232 Th # 3	0.001624	0.001624	ug/l	103.88	#VALUE!		340.02	256.68	236.68
238 U # 3	0.002336	0.002336	ug/l	35.21	#VALUE!		80.00	133.34	93.34

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	379066.31	0.34	442436.88	85.7	60 - 125		377892.13	380469.88	378836.91
45 Sc # 1	395255.50	0.52	456299.72	86.6	60 - 125		395268.72	393207.72	397290.06
45 Sc # 3	693234.81	0.29	765061.25	90.6	60 - 125		695440.44	691409.56	692854.50
74 Ge # 1	134903.84	0.58	153441.28	87.9	60 - 125		134092.34	134956.70	135662.52
74 Ge # 2	41120.28	1.11	47804.94	86.0	60 - 125		40925.75	40793.29	41641.80
74 Ge # 3	205159.02	0.61	224564.78	91.4	60 - 125		206049.69	205696.41	203730.95
89 Y # 3	1219209.00	1.09	1302847.50	93.6	60 - 125		1205309.80	1220467.10	1231850.30
115 In # 3	1250257.00	0.44	1366177.60	91.5	60 - 125		1245664.90	1256354.40	1248751.90
159 Tb # 3	1778843.10	0.46	2052817.90	86.7	60 - 125		1785704.40	1769896.60	1780928.50
209 Bi # 3	1076500.90	0.35	1405468.50	76.6	60 - 125		1078210.60	1079168.90	1072123.30

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\252SMPL.D\252SMPL.D#
 Date Acquired: Aug 27 2014 11:23 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-43-a
 Misc Info: DW
 Vial Number: 2508
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001943	0.001943	ug/l	145.14	100.00		0.00	3.33	10.00
11 B # 3	14.01	14.01	ug/l	5.35	1800.00		20257.63	21509.01	21068.57
23 Na # 1	8349	8349	ug/l	16.12	81000.00		23210792.00	22764652.00	22809502.00
24 Mg # 1	5090	5090	ug/l	16.36	81000.00		9920997.00	9696789.00	9694707.00
27 Al # 1	7.67	7.67	ug/l	18.68	81000.00		19230.07	18689.44	18355.80
39 K # 2	1129	1129	ug/l	0.32	81000.00		356510.38	362276.59	361050.66
40 Ca # 1	19480	19480	ug/l	15.90	81000.00		103727140.00	102777130.00	101764790.00
47 Ti # 3	0.6542	0.6542	ug/l	9.42	1620.00		770.04	716.70	953.68
51 V # 2	5.089	5.089	ug/l	1.71	1800.00		12225.18	12396.39	12667.71
52 Cr # 2	-0.03314	-0.03314	ug/l	32.56	1800.00		196.67	174.45	235.56
55 Mn # 3	24.31	24.31	ug/l	0.80	1800.00		437840.72	441453.53	444536.13
56 Fe # 1	35.51	35.51	ug/l	16.57	81000.00		251490.23	247305.94	245041.45
59 Co # 3	0.05414	0.05414	ug/l	7.11	1800.00		760.04	866.71	796.71
60 Ni # 2	5.84	5.84	ug/l	0.84	1800.00		6252.21	6385.60	6397.82
63 Cu # 2	11.45	11.45	ug/l	1.11	1800.00		34075.82	34101.38	34603.43
66 Zn # 3	24.72	24.72	ug/l	1.09	1800.00		49343.97	50115.56	50018.59
75 As # 2	0.1521	0.1521	ug/l	6.76	100.00		57.33	63.33	63.67
78 Se # 1	0.128	0.128	ug/l	20.06	100.00		41.00	47.67	43.33
88 Sr # 3	41.69	41.69	ug/l	3.90	1800.00		1019162.30	1028279.40	1027694.30
95 Mo # 3	0.5273	0.5273	ug/l	5.73	1800.00		2176.86	2136.86	2100.19
107 Ag # 3	-0.0009346	-0.0009346	ug/l	66.03	100.00		110.00	100.00	120.00
111 Cd # 3	0.05893	0.05893	ug/l	15.17	100.00		132.86	162.87	132.88
118 Sn # 3	0.2749	0.2749	ug/l	2.99	1800.00		2666.95	2676.96	2750.30
121 Sb # 3	0.2201	0.2201	ug/l	5.99	100.00		2050.19	1840.16	2003.51
137 Ba # 3	2.292	2.292	ug/l	1.91	1800.00		8742.55	8852.61	9122.69
202 Hg # 3	-0.0229	-0.0229	ug/l	1.36	5.00		48.33	46.67	51.00
205 Tl # 3	-0.00468	-0.00468	ug/l	5.29	20.00		60.00	63.34	76.67
208 Pb # 3	1.875	1.875	ug/l	3.17	1800.00		64759.85	64569.81	65474.72
232 Th # 3	0.0003012	0.0003012	ug/l	412.02	#VALUE!		226.68	206.68	316.68
238 U # 3	0.0009787	0.0009787	ug/l	30.05	#VALUE!		46.67	66.67	66.67

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	394812.09	4.51	442436.88	89.2	60 - 125		383594.13	385510.16	415332.06
45 Sc # 1	361286.56	14.03	456299.72	79.2	60 - 125		304670.44	376738.13	402451.03
45 Sc # 3	730808.56	7.39	765061.25	95.5	60 - 125		697545.00	701724.75	793155.94
74 Ge # 1	124627.10	15.92	153441.28	81.2	60 - 125		101868.76	133749.33	138263.23
74 Ge # 2	41470.35	0.68	47804.94	86.7	60 - 125		41193.04	41757.64	41460.38
74 Ge # 3	211176.92	1.54	224564.78	94.0	60 - 125		208130.13	210790.78	214609.86
89 Y # 3	1266854.50	4.21	1302847.50	97.2	60 - 125		1233920.40	1238260.50	1328382.50
115 In # 3	1298738.00	3.94	1366177.60	95.1	60 - 125		1269355.60	1269087.30	1357771.30
159 Tb # 3	1841157.90	3.89	2052817.90	89.7	60 - 125		1797887.30	1801860.40	1923726.30
209 Bi # 3	1136811.30	6.26	1405468.50	80.9	60 - 125		1092916.80	1098623.50	1218893.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\253_CCV.D\253_CCV.D#
 Date Acquired: Aug 27 2014 11:30 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.53 ug/l	0.26	50.00	89.5 - 110		76836.73	77954.56	77646.93
11 B	97.81 ug/l	0.50	100.00	89.5 - 110		123068.88	126119.66	124993.80
23 Na	5126 ug/l	1.50	5000.00	89.5 - 110		14872263.00	15252106.00	15021360.00
24 Mg	5089 ug/l	0.85	5000.00	89.5 - 110		10380216.00	10491558.00	10398501.00
27 Al	529.8 ug/l	1.17	500.00	89.5 - 110		1278626.80	1302374.30	1287238.10
39 K	4992 ug/l	0.85	5000.00	89.5 - 110		1506039.90	1501275.60	1508985.80
40 Ca	5288 ug/l	0.71	5000.00	89.5 - 110		29590260.00	29907132.00	29823840.00
47 Ti	51.04 ug/l	0.58	50.00	89.5 - 110		50174.22	50441.61	50825.65
51 V	48.5 ug/l	0.62	50.00	89.5 - 110		112606.22	113322.56	113549.30
52 Cr	48.01 ug/l	0.27	50.00	89.5 - 110		135096.31	136470.55	135751.20
55 Mn	512.6 ug/l	0.49	500.00	89.5 - 110		8695104.00	8800600.00	8884778.00
56 Fe	5435 ug/l	0.26	5000.00	89.5 - 110		39856412.00	39907332.00	39988040.00
59 Co	49.61 ug/l	0.30	50.00	89.5 - 110		642384.25	641286.50	649504.69
60 Ni	49.2 ug/l	0.41	50.00	89.5 - 110		51318.41	51677.22	51568.07
63 Cu	47.75 ug/l	0.76	50.00	89.5 - 110		136971.50	137277.06	137960.02
66 Zn	45.29 ug/l	1.29	50.00	89.5 - 110		86623.30	86050.71	85508.50
75 As	48.24 ug/l	1.21	50.00	89.5 - 110		14637.20	14735.94	14919.08
78 Se	46.97 ug/l	0.27	50.00	89.5 - 110		10660.46	10841.23	10682.80
88 Sr	48.83 ug/l	0.57	50.00	89.5 - 110		1140161.90	1152218.40	1150295.30
95 Mo	49.4 ug/l	0.29	50.00	89.5 - 110		178586.33	180313.88	180851.39
107 Ag	47.87 ug/l	0.46	50.00	89.5 - 110		484830.00	487376.13	489428.63
111 Cd	46.59 ug/l	0.24	50.00	89.5 - 110		101152.69	102781.49	103451.80
118 Sn	48.26 ug/l	0.64	50.00	89.5 - 110		333181.50	333682.50	335438.91
121 Sb	46.58 ug/l	0.66	50.00	89.5 - 110		384970.41	385515.97	387331.31
137 Ba	48.31 ug/l	0.35	50.00	89.5 - 110		174541.91	177688.36	178837.13
202 Hg	2.473 ug/l	1.18	2.50	89.5 - 110		6938.85	7047.24	7104.59
205 Tl	9.162 ug/l	0.76	10.00	89.5 - 110		216324.14	217113.02	218026.42
208 Pb	45.69 ug/l	1.06	50.00	89.5 - 110		1464734.10	1472653.50	1487815.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	369034.22	0.80	442436.88	83.4	60 - 125		366232.84	372112.81	368756.97
45 Sc	379656.47	0.31	456299.72	83.2	60 - 125		379722.00	378441.66	380805.75
45 Sc	670844.06	0.11	765061.25	87.7	60 - 125		670727.63	670167.00	671637.56
74 Ge	131471.02	1.00	153441.28	85.7	60 - 125		130271.84	132884.83	131256.36
74 Ge	40225.74	0.61	47804.94	84.1	60 - 125		40073.93	40508.21	40095.08
74 Ge	200143.38	0.65	224564.78	89.1	60 - 125		199030.72	199835.41	201564.00
89 Y	1209516.30	1.13	1302847.50	92.8	60 - 125		1193849.40	1218964.90	1215734.60
115 In	1229152.80	0.93	1366177.60	90.0	60 - 125		1216820.90	1231204.40	1239433.00
159 Tb	1749489.10	0.71	2052817.90	85.2	60 - 125		1740238.30	1763556.30	1744673.10
209 Bi	1048105.30	0.49	1405468.50	74.6	60 - 125		1045885.70	1044487.30	1053943.10

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\254_CCB.D\254_CCB.D#
 Date Acquired: Aug 27 2014 11:37 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step
 1 babh2.u
 2 babhe.u
 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.01048	0.01048	ug/l	50.35	#VALUE!		16.67	26.67	10.00
11 B #3	1.405	1.405	ug/l	4.13	#VALUE!		3863.82	3843.79	3770.46
23 Na #1	-11.71	-11.71	ug/l	0.29	#VALUE!		46680.25	46583.63	46366.23
24 Mg #1	0.6705	0.6705	ug/l	3.89	#VALUE!		2350.22	2283.55	2220.19
27 Al #1	0.4899	0.4899	ug/l	4.45	#VALUE!		2530.24	2630.26	2563.57
39 K #2	-12.82	-12.82	ug/l	3.67	#VALUE!		7471.66	7688.43	7651.77
40 Ca #1	2.604	2.604	ug/l	1.32	#VALUE!		36696.20	36579.18	35964.99
47 Ti #3	-0.03815	-0.03815	ug/l	49.91	#VALUE!		43.34	80.04	56.67
51 V #2	0.01131	0.01131	ug/l	45.91	#VALUE!		224.45	245.56	225.56
52 Cr #2	-0.0149	-0.0149	ug/l	29.85	#VALUE!		256.67	234.45	256.67
55 Mn #3	0.1203	0.1203	ug/l	7.37	#VALUE!		3357.08	3583.77	3337.06
56 Fe #1	1.648	1.648	ug/l	3.67	#VALUE!		16074.01	16140.63	15199.90
59 Co #3	0.008471	0.008471	ug/l	18.48	#VALUE!		186.67	150.01	186.67
60 Ni #2	0.03615	0.03615	ug/l	28.24	#VALUE!		72.22	93.33	82.22
63 Cu #2	-0.0453	-0.0453	ug/l	21.33	#VALUE!		243.34	234.45	285.56
66 Zn #3	0.04103	0.04103	ug/l	1.06	#VALUE!		653.36	653.36	663.37
75 As #2	0.007414	0.007414	ug/l	44.42	#VALUE!		16.67	15.00	14.67
78 Se #1	-0.0405	-0.0405	ug/l	31.73	#VALUE!		12.00	7.67	6.33
88 Sr #3	0.01022	0.01022	ug/l	12.53	#VALUE!		423.35	373.35	376.68
95 Mo #3	0.02511	0.02511	ug/l	22.94	#VALUE!		180.01	223.34	203.34
107 Ag #3	0.001371	0.001371	ug/l	256.09	#VALUE!		93.34	166.67	130.00
111 Cd #3	0.00866	0.00866	ug/l	26.03	#VALUE!		19.96	29.95	26.62
118 Sn #3	-0.02158	-0.02158	ug/l	23.57	#VALUE!		480.02	553.36	516.69
121 Sb #3	0.02369	0.02369	ug/l	12.29	#VALUE!		253.34	210.01	250.01
137 Ba #3	0.009624	0.009624	ug/l	59.29	#VALUE!		60.00	60.00	96.67
202 Hg #3	-0.002996	-0.002996	ug/l	57.01	#VALUE!		104.00	97.00	107.33
205 Tl #3	-0.002135	-0.002135	ug/l	33.50	#VALUE!		106.67	140.01	126.67
208 Pb #3	-0.01755	-0.01755	ug/l	2.74	#VALUE!		680.03	703.36	710.03

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	372330.25	0.68	442436.88	84.2	60 - 125		371474.78	370320.19	375195.78
45 Sc #1	378429.72	0.55	456299.72	82.9	60 - 125		380032.34	379192.03	376064.72
45 Sc #3	662523.31	0.21	765061.25	86.6	60 - 125		661217.06	662330.00	664022.94
74 Ge #1	132804.38	0.15	153441.28	86.6	60 - 125		132865.09	132585.00	132963.00
74 Ge #2	40485.20	0.37	47804.94	84.7	60 - 125		40650.75	40440.27	40364.59
74 Ge #3	202444.03	0.76	224564.78	90.1	60 - 125		201617.91	201504.16	204210.02
89 Y #3	1217564.40	1.06	1302847.50	93.5	60 - 125		1209476.00	1210826.90	1232390.10
115 In #3	1253214.60	0.23	1366177.60	91.7	60 - 125		1252469.80	1256398.80	1250775.30
159 Tb #3	1763609.80	0.45	2052817.90	85.9	60 - 125		1764270.80	1755305.80	1771252.90
209 Bi #3	1097778.10	3.28	1405468.50	78.1	60 - 125		1076957.80	1077062.90	1139313.50

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\255SMPL.D\255SMPL.D#
 Date Acquired: Aug 27 2014 11:45 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-47-a
 Misc Info: DW
 Vial Number: 2509
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.001462	0.001462	ug/l	139.95	100.00		6.67	0.00	3.33
11 B # 3	14.87	14.87	ug/l	1.64	1800.00		21095.17	21502.22	20988.35
23 Na # 1	7231	7231	ug/l	0.93	81000.00		22143204.00	21942860.00	22416422.00
24 Mg # 1	4197	4197	ug/l	0.64	81000.00		8942122.00	8954032.00	9078607.00
27 Al # 1	6.326	6.326	ug/l	1.93	81000.00		17822.02	17525.08	17271.52
39 K # 2	1124	1124	ug/l	0.92	81000.00		356422.25	354037.41	358821.38
40 Ca # 1	16850	16850	ug/l	0.45	81000.00		99043584.00	98669624.00	99842520.00
47 Ti # 3	0.7199	0.7199	ug/l	0.49	1620.00		826.71	836.71	850.04
51 V # 2	3.63	3.63	ug/l	0.45	1800.00		8835.47	8912.18	8879.94
52 Cr # 2	-0.02265	-0.02265	ug/l	18.47	1800.00		245.56	224.45	224.45
55 Mn # 3	8.808	8.808	ug/l	1.15	1800.00		157682.08	156555.81	156928.36
56 Fe # 1	119.3	119.3	ug/l	1.18	81000.00		929447.50	908863.50	922071.56
59 Co # 3	0.08776	0.08776	ug/l	3.30	1800.00		1256.75	1263.41	1196.74
60 Ni # 2	8.849	8.849	ug/l	0.16	1800.00		9555.87	9560.30	9498.06
63 Cu # 2	18.73	18.73	ug/l	0.67	1800.00		55112.84	55639.97	55683.43
66 Zn # 3	18.7	18.7	ug/l	1.96	1800.00		37148.13	36396.55	37355.24
75 As # 2	0.1745	0.1745	ug/l	14.56	100.00		77.33	63.33	63.67
78 Se # 1	0.1086	0.1086	ug/l	20.85	100.00		44.33	48.67	38.33
88 Sr # 3	40.52	40.52	ug/l	0.35	1800.00		954314.75	966252.25	970685.81
95 Mo # 3	0.5393	0.5393	ug/l	3.35	1800.00		2033.51	2186.86	2126.85
107 Ag # 3	0.002622	0.002622	ug/l	15.80	100.00		136.67	146.67	146.67
111 Cd # 3	0.008982	0.008982	ug/l	59.21	100.00		39.55	19.52	19.53
118 Sn # 3	0.709	0.709	ug/l	1.57	1800.00		5561.05	5757.78	5714.44
121 Sb # 3	0.7489	0.7489	ug/l	3.40	100.00		6054.57	6538.11	6551.42
137 Ba # 3	2.862	2.862	ug/l	0.22	1800.00		10606.97	10760.33	10900.46
202 Hg # 3	-0.0115	-0.0115	ug/l	49.84	5.00		95.34	64.00	77.33
205 Tl # 3	-0.003355	-0.003355	ug/l	10.78	20.00		96.67	103.34	86.67
208 Pb # 3	33.36	33.36	ug/l	0.41	1800.00		1084640.00	1090097.60	1091073.80
232 Th # 3	0.0199	0.0199	ug/l	9.01	#VALUE!		816.71	933.39	903.39
238 U # 3	0.003112	0.003112	ug/l	12.79	#VALUE!		113.34	140.01	140.00

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	378154.56	0.45	442436.88	85.5	60 - 125		376616.88	377892.53	379954.31
45 Sc # 1	397060.50	0.21	456299.72	87.0	60 - 125		396391.59	396821.50	397968.38
45 Sc # 3	694754.88	0.98	765061.25	90.8	60 - 125		687987.00	694717.94	701559.81
74 Ge # 1	135186.73	0.28	153441.28	88.1	60 - 125		135147.72	134830.13	135582.36
74 Ge # 2	41239.09	0.22	47804.94	86.3	60 - 125		41258.80	41318.84	41139.61
74 Ge # 3	206278.11	0.77	224564.78	91.9	60 - 125		204553.91	207672.56	206607.89
89 Y # 3	1223918.40	0.54	1302847.50	93.9	60 - 125		1216456.40	1226526.60	1228772.40
115 In # 3	1256427.60	1.46	1366177.60	92.0	60 - 125		1239365.90	1254049.90	1275867.10
159 Tb # 3	1767742.60	0.72	2052817.90	86.1	60 - 125		1753817.50	1770871.90	1778538.90
209 Bi # 3	1099980.40	3.49	1405468.50	78.3	60 - 125		1075074.10	1080615.40	1144251.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\256SMPL.D\256SMPL.D#
 Date Acquired: Aug 27 2014 11:52 pm
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: 680-104445-a-49-a
 Misc Info: DW
 Vial Number: 2510
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: Sample
 Dilution Factor: 1.00
 Autodil Factor: Undiluted
 Final Dil Factor: 1.00

Tune Step

1 babh2.u

2 babhe.u

3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be #3	0.001996	0.001996	ug/l	111.67	100.00		6.67	6.67	0.00
11 B #3	15.28	15.28	ug/l	0.62	1800.00		22990.69	22873.81	23027.23
23 Na #1	6893	6893	ug/l	13.24	81000.00		23749400.00	23506870.00	23432134.00
24 Mg #1	4043	4043	ug/l	13.45	81000.00		9650168.00	9748041.00	9560745.00
27 Al #1	18.69	18.69	ug/l	13.95	81000.00		54728.35	55005.69	53999.86
39 K #2	1155	1155	ug/l	0.08	81000.00		381941.03	383609.50	389438.16
40 Ca #1	15500	15500	ug/l	12.97	81000.00		101394530.00	102382840.00	101333160.00
47 Ti #3	0.6398	0.6398	ug/l	3.54	1620.00		863.38	806.71	840.04
51 V #2	6.687	6.687	ug/l	0.68	1800.00		16799.83	17064.52	17154.60
52 Cr #2	0.06946	0.06946	ug/l	19.28	1800.00		511.12	565.57	493.34
55 Mn #3	7.652	7.652	ug/l	0.55	1800.00		144835.19	144764.05	145100.13
56 Fe #1	60.88	60.88	ug/l	13.85	81000.00		525523.56	532250.06	518451.34
59 Co #3	0.07018	0.07018	ug/l	4.64	1800.00		1046.73	1023.39	1123.40
60 Ni #2	4.549	4.549	ug/l	0.79	1800.00		5100.75	5196.33	5237.45
63 Cu #2	12.75	12.75	ug/l	0.31	1800.00		39566.65	39782.65	40147.95
66 Zn #3	25.86	25.86	ug/l	1.03	1800.00		53528.54	54163.72	54197.04
75 As #2	0.1628	0.1628	ug/l	13.56	100.00		69.67	59.33	74.33
78 Se #1	0.1131	0.1131	ug/l	13.96	100.00		47.00	50.00	51.00
88 Sr #3	41.24	41.24	ug/l	0.03	1800.00		1042153.10	1045442.60	1053516.40
95 Mo #3	0.499	0.499	ug/l	2.92	1800.00		2016.85	2126.86	2093.51
107 Ag #3	0.002677	0.002677	ug/l	64.36	100.00		160.01	130.01	166.67
111 Cd #3	0.01018	0.01018	ug/l	21.45	100.00		36.22	29.53	26.21
118 Sn #3	-0.021	-0.021	ug/l	19.79	1800.00		556.69	516.69	583.36
121 Sb #3	0.1239	0.1239	ug/l	7.23	100.00		1200.08	1053.40	1196.75
137 Ba #3	2.347	2.347	ug/l	0.21	1800.00		9332.84	9302.78	9366.16
202 Hg #3	-0.0133	-0.0133	ug/l	12.32	5.00		82.67	75.33	75.33
205 Tl #3	-0.004925	-0.004925	ug/l	6.11	20.00		56.67	70.00	56.67
208 Pb #3	10.41	10.41	ug/l	0.73	1800.00		355290.81	356832.19	363795.78
232 Th #3	0.008324	0.008324	ug/l	19.52	#VALUE!		606.70	520.03	516.70
238 U #3	0.003047	0.003047	ug/l	9.34	#VALUE!		146.67	143.34	130.01

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li #3	399707.84	0.40	442436.88	90.3	60 - 125		397903.31	400315.94	400904.28
45 Sc #1	448050.81	13.70	456299.72	98.2	60 - 125		410060.91	415225.03	518866.50
45 Sc #3	768945.50	0.50	765061.25	100.5	60 - 125		769743.63	764725.38	772367.63
74 Ge #1	149623.30	11.27	153441.28	97.5	60 - 125		139090.11	140711.55	169068.22
74 Ge #2	43356.91	0.97	47804.94	90.7	60 - 125		43052.86	43178.68	43839.19
74 Ge #3	218746.77	0.65	224564.78	97.4	60 - 125		219041.88	217197.42	220000.98
89 Y #3	1306709.10	0.54	1302847.50	100.3	60 - 125		1300627.50	1305112.10	1314388.00
115 In #3	1328853.80	0.51	1366177.60	97.3	60 - 125		1326359.60	1323716.50	1336485.10
159 Tb #3	1862272.60	0.83	2052817.90	90.7	60 - 125		1845138.30	1866385.00	1875295.00
209 Bi #3	1196497.10	1.37	1405468.50	85.1	60 - 125		1180073.40	1196656.50	1212761.60

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures
 0 :ISTD Failures

0 :Max. Number of Failures Allowed
 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

ICV QC Report

ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\257_CCV.D\257_CCV.D#
 Date Acquired: Aug 28 2014 12:00 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCV
 Misc Info:
 Vial Number: 3
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCV
 Dilution Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be	48.21 ug/l	0.94	50.00	89.5 - 110		80808.98	80698.66	81257.42
11 B	97.58 ug/l	1.12	100.00	89.5 - 110		131306.77	130166.96	131048.55
23 Na	5137 ug/l	0.56	5000.00	89.5 - 110		16010793.00	15965073.00	15860506.00
24 Mg	5101 ug/l	0.29	5000.00	89.5 - 110		11071510.00	11035887.00	11029158.00
27 Al	525.6 ug/l	0.71	500.00	89.5 - 110		1361727.80	1349225.60	1345678.50
39 K	4996 ug/l	0.78	5000.00	89.5 - 110		1580809.80	1571367.00	1583132.60
40 Ca	5278 ug/l	0.15	5000.00	89.5 - 110		31396792.00	31474182.00	31395920.00
47 Ti	50.5 ug/l	0.49	50.00	89.5 - 110		52557.31	51978.87	52600.51
51 V	49 ug/l	0.82	50.00	89.5 - 110		118993.94	120068.27	120264.20
52 Cr	48.31 ug/l	0.70	50.00	89.5 - 110		142634.00	143058.97	143642.56
55 Mn	506.9 ug/l	0.39	500.00	89.5 - 110		9114407.00	9127562.00	9225634.00
56 Fe	5386 ug/l	0.54	5000.00	89.5 - 110		41887760.00	41568848.00	42007680.00
59 Co	49.28 ug/l	0.50	50.00	89.5 - 110		670362.69	672767.31	679158.75
60 Ni	49.6 ug/l	0.48	50.00	89.5 - 110		54179.82	54333.58	54776.09
63 Cu	47.84 ug/l	1.03	50.00	89.5 - 110		144278.50	144224.69	144161.97
66 Zn	44.45 ug/l	1.04	50.00	89.5 - 110	Fail	88723.30	89376.81	88773.84
75 As	48.39 ug/l	0.26	50.00	89.5 - 110		15457.53	15441.85	15647.02
78 Se	46.8 ug/l	0.66	50.00	89.5 - 110		11230.80	11358.21	11182.11
88 Sr	48.34 ug/l	0.41	50.00	89.5 - 110		1191491.00	1188790.90	1206136.10
95 Mo	49.8 ug/l	1.05	50.00	89.5 - 110		187657.34	188044.47	190530.89
107 Ag	47.94 ug/l	1.58	50.00	89.5 - 110		503682.34	508983.63	510670.94
111 Cd	46.68 ug/l	1.38	50.00	89.5 - 110		106297.52	106830.92	107356.57
118 Sn	48.29 ug/l	0.74	50.00	89.5 - 110		345856.31	345094.53	352929.41
121 Sb	46.51 ug/l	0.95	50.00	89.5 - 110		401024.41	398773.22	403325.97
137 Ba	48.06 ug/l	0.57	50.00	89.5 - 110		182690.23	181564.86	185560.70
202 Hg	2.497 ug/l	1.00	2.50	89.5 - 110		7287.01	7374.38	7520.47
205 Tl	9.038 ug/l	0.69	10.00	89.5 - 110		221889.53	221306.34	226302.05
208 Pb	45.33 ug/l	0.09	50.00	89.5 - 110		1516457.50	1523172.90	1533359.10

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li	388036.38	1.30	442436.88	87.7	60 - 125		386766.25	383734.47	393608.44
45 Sc	401370.41	0.08	456299.72	88.0	60 - 125		400995.78	401453.63	401661.78
45 Sc	703518.06	0.94	765061.25	92.0	60 - 125		703063.75	697109.44	710381.06
74 Ge	138457.70	0.18	153441.28	90.2	60 - 125		138512.34	138668.34	138192.42
74 Ge	42146.29	1.00	47804.94	88.2	60 - 125		41926.95	41881.25	42630.66
74 Ge	210758.63	0.68	224564.78	93.9	60 - 125		210688.72	209367.47	212219.70
89 Y	1272666.60	0.66	1302847.50	97.7	60 - 125		1264856.40	1271549.00	1281594.60
115 In	1279314.00	1.51	1366177.60	93.6	60 - 125		1280749.30	1259261.30	1297931.60
159 Tb	1822450.00	0.62	2052817.90	88.8	60 - 125		1813134.50	1819317.30	1834898.10
209 Bi	1099434.50	2.37	1405468.50	78.2	60 - 125		1125801.50	1073657.80	1098844.40

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
 ISTD: Pass

Sample QC Report ICPMSA

Data File: C:\ICPCHEM\1\DATA\14H26h00.B\258_CCB.D\258_CCB.D#
 Date Acquired: Aug 28 2014 12:07 am
 Acq. Method: EPA2002C.M
 Operator: BR
 Sample Name: CCB
 Misc Info:
 Vial Number: 4
 Current Method: C:\ICPCHEM\1\METHODS\EPA2002C.M
 Calibration File: C:\ICPCHEM\1\CALIB\EPA2002C.C
 Last Cal. Update: Aug 24 2014 11:32 am
 Sample Type: CCB Tune Step
 Dilution Factor: 1.00 1 babh2.u
 Autodil Factor: Undiluted 2 babhe.u
 Final Dil Factor: 1.00 3 babnorm.u

QC Elements

Element	Corr Conc	Raw Conc	Units	RSD(%)	High Limit	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
9 Be # 3	0.01237	0.01237	ug/l	30.85	#VALUE!		23.33	26.67	13.33
11 B # 3	1.638	1.638	ug/l	7.78	#VALUE!		4317.25	4060.52	4027.20
23 Na # 1	-12.01	-12.01	ug/l	0.61	#VALUE!		47218.34	47224.91	47221.75
24 Mg # 1	0.8353	0.8353	ug/l	3.50	#VALUE!		2710.27	2783.62	2640.26
27 Al # 1	0.5732	0.5732	ug/l	5.50	#VALUE!		2830.30	2970.49	2816.95
39 K # 2	-13.62	-13.62	ug/l	5.78	#VALUE!		7404.99	7928.57	7681.79
40 Ca # 1	2.879	2.879	ug/l	1.39	#VALUE!		39134.32	39405.02	39261.27
47 Ti # 3	-0.04624	-0.04624	ug/l	20.21	#VALUE!		56.67	60.00	40.00
51 V # 2	0.01689	0.01689	ug/l	13.77	#VALUE!		257.78	260.00	247.78
52 Cr # 2	-0.01454	-0.01454	ug/l	5.76	#VALUE!		257.78	263.34	261.12
55 Mn # 3	0.1377	0.1377	ug/l	6.02	#VALUE!		3880.51	3917.18	3427.08
56 Fe # 1	1.912	1.912	ug/l	2.91	#VALUE!		18826.66	18396.17	17828.93
59 Co # 3	0.01065	0.01065	ug/l	32.91	#VALUE!		250.01	156.67	203.34
60 Ni # 2	0.02997	0.02997	ug/l	24.27	#VALUE!		86.67	71.11	80.00
63 Cu # 2	-0.04468	-0.04468	ug/l	17.18	#VALUE!		250.00	294.45	256.67
66 Zn # 3	0.01842	0.01842	ug/l	124.16	#VALUE!		576.69	650.03	616.70
75 As # 2	0.01063	0.01063	ug/l	87.29	#VALUE!		16.33	14.67	20.33
78 Se # 1	-0.03652	-0.03652	ug/l	18.12	#VALUE!		11.67	9.33	8.67
88 Sr # 3	0.01244	0.01244	ug/l	3.39	#VALUE!		440.02	466.69	430.02
95 Mo # 3	0.0234	0.0234	ug/l	42.63	#VALUE!		223.34	156.67	206.67
107 Ag # 3	0.004032	0.004032	ug/l	12.48	#VALUE!		166.67	160.01	146.67
111 Cd # 3	0.00974	0.00974	ug/l	43.39	#VALUE!		19.95	26.63	36.62
118 Sn # 3	-0.01779	-0.01779	ug/l	38.09	#VALUE!		610.03	536.69	486.69
121 Sb # 3	0.02573	0.02573	ug/l	26.91	#VALUE!		300.01	290.01	180.01
137 Ba # 3	0.01634	0.01634	ug/l	34.28	#VALUE!		93.34	123.34	76.67
202 Hg # 3	0.004933	0.004933	ug/l	95.84	#VALUE!		136.67	112.33	124.00
205 Tl # 3	-0.0009973	-0.0009973	ug/l	77.38	#VALUE!		173.34	150.01	130.00
208 Pb # 3	-0.01277	-0.01277	ug/l	22.16	#VALUE!		926.71	763.37	853.37

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag	Rep1 (cps)	Rep2 (cps)	Rep3 (cps)
6 Li # 3	373790.38	4.38	442436.88	84.5	60 - 125		382354.88	384127.34	354888.91
45 Sc # 1	391487.31	0.47	456299.72	85.8	60 - 125		392681.69	392400.00	389380.34
45 Sc # 3	661193.69	3.44	765061.25	86.4	60 - 125		671873.00	676637.63	635070.44
74 Ge # 1	137020.41	0.08	153441.28	89.3	60 - 125		137085.48	136890.25	137085.48
74 Ge # 2	42175.65	0.37	47804.94	88.2	60 - 125		42158.55	42340.08	42028.31
74 Ge # 3	202953.70	3.55	224564.78	90.4	60 - 125		207293.73	206934.31	194633.05
89 Y # 3	1222671.00	2.77	1302847.50	93.8	60 - 125		1232436.90	1250537.10	1185039.10
115 In # 3	1254136.50	3.66	1366177.60	91.8	60 - 125		1279265.50	1282011.80	1201132.10
159 Tb # 3	1754409.10	3.43	2052817.90	85.5	60 - 125		1777861.30	1799276.60	1686089.80
209 Bi # 3	1099010.50	5.92	1405468.50	78.2	60 - 125		1096298.30	1165350.30	1035383.00

ISTD Ref File : C:\ICPCHEM\1\DATA\14H24k00.B\005CALB.D\005CALB.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
 0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
 ISTD: Pass

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah

Job No.: 680-104534-1

SDG No.: 680-104534-01

Batch Number: 345543

Batch Start Date: 08/23/14 07:55

Batch Analyst: West, Ryan

Batch Method: 3050B

Batch End Date: 08/23/14 11:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	MS_Ag_LCS_SPK 00024	MS_LCS1_WK 00013	MS_LCS2_wk 00164
MB 680-345543/1		3050B, 6020A		CALC NOT SET TO RUN	1.06 g	500 mL			
LCS 680-345543/2		3050B, 6020A		CALC NOT SET TO RUN	1.10 g	500 mL	1 mL	1 mL	1 mL
680-104534-B-1	CV0004A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.12 g	500 mL			
680-104534-B-1 MS	CV0004A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.12 g	500 mL	1 mL	1 mL	1 mL
680-104534-B-1 MSD	CV0004A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.14 g	500 mL	1 mL	1 mL	1 mL
680-104534-B-2	CV0004B-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.08 g	500 mL			
680-104534-B-3	CV0163A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.18 g	500 mL			
680-104534-B-4	CV0163A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.04 g	500 mL			
680-104534-B-5	HP0085A-CS6"	3050B, 6020A	T	CALC NOT SET TO RUN	1.15 g	500 mL			
680-104534-B-6	HP0085A-CS12"	3050B, 6020A	T	CALC NOT SET TO RUN	1.07 g	500 mL			
680-104534-B-7	HP0085A-CSD12"	3050B, 6020A	T	CALC NOT SET TO RUN	1.00 g	500 mL			
680-104534-B-8	HP0085A-CS18"	3050B, 6020A	T	CALC NOT SET TO RUN	1.07 g	500 mL			
680-104534-B-9	HP0085A-CS24"	3050B, 6020A	T	CALC NOT SET TO RUN	1.06 g	500 mL			
680-104534-B-10	HP0085B-CS6"	3050B, 6020A	T	CALC NOT SET TO RUN	1.08 g	500 mL			
680-104534-B-11	HP0085B-CS12"	3050B, 6020A	T	CALC NOT SET TO RUN	1.05 g	500 mL			
680-104534-B-12	HP0085B-CS18"	3050B, 6020A	T	CALC NOT SET TO RUN	1.13 g	500 mL			
680-104534-B-13	HP0085B-CS24"	3050B, 6020A	T	CALC NOT SET TO RUN	1.12 g	500 mL			
680-104534-B-14	FM0350A-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.12 g	500 mL			
680-104534-B-15	FM0350B-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.07 g	500 mL			
680-104534-B-16	FM0350C-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.11 g	500 mL			
680-104534-B-17	FM0350D-CS4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.11 g	500 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

6020A

Page 1 of 2

METALS BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Batch Number: 345543 Batch Start Date: 08/23/14 07:55 Batch Analyst: West, RyanBatch Method: 3050B Batch End Date: 08/23/14 11:36

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	InitialAmount	FinalAmount	MS_Ag_LCS_SPK 00024	MS_LCS1_WK 00013	MS_LCS2_wk 00164
680-104534-B-18	FM0350A-CSD4"	3050B, 6020A	T	CALC NOT SET TO RUN	1.04 g	500 mL			

Batch Notes	
Analyst	CRW
Balance ID	ME 25
Blank Soil Lot Number	3415694
Hydrogen peroxide lot number	3715733
Lot # of hydrochloric acid	3719103
Lot # of Nitric Acid	3719082
Hood ID or number	FH8
Hot Block ID number	10
Nominal Amount Used	1 g
Oven, Bath or Block Temperature 1	95 Degrees C
Oven, Bath or Block Temperature 2	96 Degrees C
Pipette ID	ME4
Perform Calculation (0=No, 1=Yes)	0
ID number of the thermometer	ME16
Digestion Tube/Cup Lot #	3706657
Uncorrected Temperature	95 Celsius
Uncorrected Temperature 2	96 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG No.: 680-104534-01
Project: 35th Avenue Superfund Site

Client Sample ID	Lab Sample ID
CV0004A-CS4"	680-104534-1
CV0004B-CS4"	680-104534-2
CV0163A-CS4"	680-104534-3
CV0163A-CS4"	680-104534-4
HP0085A-CS6"	680-104534-5
HP0085A-CS12"	680-104534-6
HP0085A-CSD12"	680-104534-7
HP0085A-CS18"	680-104534-8
HP0085A-CS24"	680-104534-9
HP0085B-CS6"	680-104534-10
HP0085B-CS12"	680-104534-11
HP0085B-CS18"	680-104534-12
HP0085B-CS24"	680-104534-13
FM0350A-CS4"	680-104534-14
FM0350B-CS4"	680-104534-15
FM0350C-CS4"	680-104534-16
FM0350D-CS4"	680-104534-17
FM0350A-CSD4"	680-104534-18

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG Number: 680-104534-01
Matrix: Solid Instrument ID: NOEQUIP
Method: Moisture RL Date: 01/01/2005 13:43

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.01	

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Savannah Job Number: 680-104534-1
SDG Number: 680-104534-01
Matrix: Solid Instrument ID: NOEQUIP
Method: Moisture XRL Date: 04/09/2011 17:03

Analyte	Wavelength/ Mass	XRL (%)	
Percent Moisture		0.01	

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Savannah Job No.: 680-104534-1

SDG No.: 680-104534-01

Instrument ID: NOEQUIP Method: Moisture

Start Date: 08/22/2014 13:43 End Date: 08/22/2014 13:43

Lab Sample ID	D / F	T y p e	Time	Analytes															
				M o i s t															
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
680-104534-1	1	T	13:43	X															
680-104534-1 MS	1	T	13:43	X															
680-104534-1 MSD	1	T	13:43	X															
680-104534-2	1	T	13:43	X															
680-104534-3	1	T	13:43	X															
680-104534-4	1	T	13:43	X															
680-104534-5	1	T	13:43	X															
680-104534-6	1	T	13:43	X															
680-104534-7	1	T	13:43	X															
680-104534-8	1	T	13:43	X															
680-104534-9	1	T	13:43	X															
680-104534-10	1	T	13:43	X															
680-104534-11	1	T	13:43	X															
680-104534-12	1	T	13:43	X															
680-104534-13	1	T	13:43	X															
680-104534-14	1	T	13:43	X															
680-104534-15	1	T	13:43	X															
680-104534-16	1	T	13:43	X															
680-104534-17	1	T	13:43	X															
680-104534-18	1	T	13:43	X															
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																
ZZZZZZ			13:43																

Prep Types

T = Total/NA

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Batch Number: 345456 Batch Start Date: 08/22/14 13:43 Batch Analyst: Longworth, Hazel MBatch Method: Moisture Batch End Date: 08/23/14 09:15

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry			
680-104534-B-1	CV0004A-CS4"	Moisture	T	1.29 g	9.78 g	8.13 g			
680-104534-B-1 MS	CV0004A-CS4"	Moisture	T	1.29 g	9.78 g	8.13 g			
680-104534-B-1 MSD	CV0004A-CS4"	Moisture	T	1.29 g	9.78 g	8.13 g			
680-104534-B-2	CV0004B-CS4"	Moisture	T	1.28 g	8.65 g	7.25 g			
680-104534-B-3	CV0163A-CS4"	Moisture	T	1.28 g	8.10 g	6.78 g			
680-104534-B-4	CV0163A-CS4"	Moisture	T	1.29 g	8.34 g	7.06 g			
680-104534-B-5	HP0085A-CS6"	Moisture	T	1.29 g	9.12 g	7.99 g			
680-104534-B-6	HP0085A-CS12"	Moisture	T	1.29 g	9.21 g	8.26 g			
680-104534-B-7	HP0085A-CSD12"	Moisture	T	1.30 g	9.38 g	8.35 g			
680-104534-B-8	HP0085A-CS18"	Moisture	T	1.29 g	8.52 g	7.64 g			
680-104534-B-9	HP0085A-CS24"	Moisture	T	1.27 g	8.33 g	7.31 g			
680-104534-B-10	HP0085B-CS6"	Moisture	T	1.28 g	8.40 g	7.50 g			
680-104534-B-11	HP0085B-CS12"	Moisture	T	1.27 g	9.54 g	8.77 g			
680-104534-B-12	HP0085B-CS18"	Moisture	T	1.28 g	9.74 g	8.96 g			
680-104534-B-13	HP0085B-CS24"	Moisture	T	1.29 g	8.48 g	7.72 g			
680-104534-B-14	FM0350A-CS4"	Moisture	T	1.28 g	8.92 g	7.27 g			
680-104534-B-15	FM0350B-CS4"	Moisture	T	1.28 g	8.30 g	7.54 g			
680-104534-B-16	FM0350C-CS4"	Moisture	T	1.29 g	8.46 g	6.97 g			
680-104534-B-17	FM0350D-CS4"	Moisture	T	1.29 g	8.98 g	7.31 g			
680-104534-B-18	FM0350A-CSD4"	Moisture	T	1.28 g	8.97 g	7.35 g			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Moisture

Page 1 of 2

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Savannah Job No.: 680-104534-1SDG No.: 680-104534-01Batch Number: 345456 Batch Start Date: 08/22/14 13:43 Batch Analyst: Longworth, Hazel MBatch Method: Moisture Batch End Date: 08/23/14 09:15

Batch Notes	
Balance ID	19 No Unit
Date samples were placed in the oven	08-22-14
Oven Temp when samples are put in oven	109 Degrees C
Time samples were place in the oven	13:52
Date samples were removed from oven	08-23-14
Oven Temp when samples removed from oven	109 Degrees C
Time Samples were removed from oven	09:00
Oven ID	cuo1
ID number of the thermometer	meo2a
Uncorrected In Temperature	109 Celsius
Uncorrected Out Temperature	109 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Moisture

Page 2 of 2

Shipping and Receiving Documents



TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Work Order:

Date: 8/20/14 Page 1 of 2

COMPANY: OTIE		ADDRESS: 1220 KENNEDY ST. CIRCLE MARIETTA, GA		ANALYSIS REQUESTED												Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.		No # of Containers			
PHONE: 770-355-5550		FAX:		PRESERVATION (See codes)												REMARKS					
SAMPLED BY: JERRY PANTAP		SIGNATURE: [Signature]																			
#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)	Pb	Fe	As	Al											
1	CV0004A-CS4"	8/18/14	1515		X	SDIL	X	X	X	X	X								2		
2	CV0004B-CS4"	8/18/14	1545		X	SDIL	X	X	X	X	X								2		
3	CV0163A-CS4"	8/18/14	1620		X	SDIL	X	X	X	X	X								2		
4	CV0163A-CS4"	8/18/14	1640		X	SDIL	X	X	X	X	X								2		
5	HP0085A-CS6"	8/19/14	0910		X	SDIL	X	X	X	X	X								2		
6	HP0085A-CS12"	8/19/14	0920		X	SDIL	X	X	X	X	X								2		
7	HP0085A-CS012"	8/19/14	0925		X	SDIL	X	X	X	X	X								2		
8	HP0085A-CS18"	8/19/14	0930		X	SDIL	X	X	X	X	X								2		
9	HP0085A-CS24"	8/19/14	0940		X	SDIL	X	X	X	X	X								2		
10	HP0085B-CS6"	8/19/14	1140		X	SDIL	X	X	X	X	X								2		
11	HP0085B-CS12"	8/19/14	1145		X	SDIL	X	X	X	X	X								2		
12	HP0085B-CS18"	8/19/14	1200		X	SDIL	X	X	X	X	X								2		
13	HP0085B-CS24"	8/19/14	1215		X	SDIL	X	X	X	X	X								2		
14																					
RELINQUISHED BY: [Signature]		DATE/TIME: 8/20/14 1400		RECEIVED BY: [Signature]		DATE/TIME: 8/22/14 0920		PROJECT INFORMATION												RECEIPT	
1: [Signature]		2: [Signature]		3: [Signature]		4: [Signature]		PROJECT NAME: 35TH AVE INVESTIGATION												Total # of Containers: 56	
5: [Signature]		6: [Signature]		7: [Signature]		8: [Signature]		PROJECT #: 35TH AVE												Turnaround Time Request	
9: [Signature]		10: [Signature]		11: [Signature]		12: [Signature]		SITE ADDRESS: Birmingham, AL												Standard 5 Business Days	
13: [Signature]		14: [Signature]		15: [Signature]		16: [Signature]		SEND REPORT TO: RUSSELL.HENDERSON@OTIE.COM												2 Business Day Rush	
17: [Signature]		18: [Signature]		19: [Signature]		20: [Signature]		INVOICE TO: (IF DIFFERENT FROM ABOVE)												Next Business Day Rush	
21: [Signature]		22: [Signature]		23: [Signature]		24: [Signature]		QUOTE #: PO#:												Same Day Rush (auth req.)	
25: [Signature]		26: [Signature]		27: [Signature]		28: [Signature]		STATE PROGRAM (if any):												Other STD TAT	
29: [Signature]		30: [Signature]		31: [Signature]		32: [Signature]		E-mail? Y/N; Fax? Y/N												DATA PACKAGE: I II III IV	
33: [Signature]		34: [Signature]		35: [Signature]		36: [Signature]		SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.													
37: [Signature]		38: [Signature]		39: [Signature]		40: [Signature]		SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.													

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify)

WW = Waste Water

NA = None

White Copy - Original; Yellow Copy - Client



TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Work Order:

Date 8/20/14 Page 2 of 2

[illegible]

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None.

White Copy - Original; Yellow Copy - Client

Login Sample Receipt Checklist

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1
SDG Number: 680-104534-01

Login Number: 104534

List Source: TestAmerica Savannah

List Number: 1

Creator: Kicklighter, Marilyn D

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-104534-1

TestAmerica Sample Delivery Group: 680-104534-01

Client Project/Site: 35th Avenue Superfund Site

Revision: 1

For:

Oneida Total Integrated Enterprises LLC

1220 Kennestone Circle

Suite 106

Marietta, Georgia 30060

Attn: Ms. Limari F Krebs



Authorized for release by:

1/26/2015 2:21:45 PM

Lisa Harvey, Project Manager II

(912)354-7858 e.3221

lisa.harvey@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Job ID: 680-104534-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-104534-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

01/26/2015: This report has been revised. The sample ID for sample - 4 has been changed to: CV0163B-CS4" (680-104534-4). The COC has also been revised.

RECEIPT

The samples were received on 8/22/2014 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 13.2° C and 14.0° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163B-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: The following samples were diluted due to the nature of the sample matrix : CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), FM0350A-CS4" (680-104534-14), FM0350A-CSD4" (680-104534-18), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085B-CS6" (680-104534-10), HP0085A-CSD12" (680-104534-7), FM0350A-CSD4" (680-104534-18). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0004A-CS4" (680-104534-1), CV0004A-CS4" (680-104534-1 MS), CV0004A-CS4" (680-104534-1 MSD), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163B-CS4" (680-104534-4), HP0085A-CS12" (680-104534-6), HP0085A-CS6" (680-104534-5), HP0085A-CSD12" (680-104534-7), HP0085B-CS12" (680-104534-11), HP0085B-CS6" (680-104534-10), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS18" (680-104534-12).

Samples CV0004A-CS4" (680-104534-1)[10X], CV0004B-CS4" (680-104534-2)[10X], CV0163A-CS4" (680-104534-3)[10X], CV0163B-CS4" (680-104534-4)[10X], HP0085A-CS6" (680-104534-5)[10X], HP0085A-CSD12" (680-104534-7)[10X], HP0085B-CS6" (680-104534-10)[10X], FM0350A-CS4" (680-104534-14)[10X], FM0350B-CS4" (680-104534-15)[10X], FM0350C-CS4" (680-104534-16)[10X], FM0350D-CS4" (680-104534-17)[10X] and FM0350A-CSD4" (680-104534-18)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

METALS (ICPMS)

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163B-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18"

Case Narrative

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Job ID: 680-104534-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

(680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for metals (ICPMS) in accordance with EPA SW-846 Methods 6020A.

Method(s) 6020A: The method blank for batch 680-345543 contained iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Iron was detected in method blank MB 680-345543/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Lead recovery is outside criteria low for the MS and MSD of sample CV0004A-CS4" (680-104534-1) in batch 680-345970. Aluminum and Iron recoveries are outside criteria high. Also, Iron exceeded the RPD limit.

Refer to the QC report for details.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples HP0085A-CS6" (680-104534-5)[4X], HP0085A-CS12" (680-104534-6)[4X], HP0085A-CSD12" (680-104534-7)[4X], HP0085A-CS18" (680-104534-8)[4X], HP0085A-CS24" (680-104534-9)[4X], HP0085B-CS6" (680-104534-10)[4X], HP0085B-CS12" (680-104534-11)[4X], HP0085B-CS18" (680-104534-12)[10X] and HP0085B-CS24" (680-104534-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

PERCENT SOLIDS/MOISTURE

Samples CV0004A-CS4" (680-104534-1), CV0004B-CS4" (680-104534-2), CV0163A-CS4" (680-104534-3), CV0163B-CS4" (680-104534-4), HP0085A-CS6" (680-104534-5), HP0085A-CS12" (680-104534-6), HP0085A-CSD12" (680-104534-7), HP0085A-CS18" (680-104534-8), HP0085A-CS24" (680-104534-9), HP0085B-CS6" (680-104534-10), HP0085B-CS12" (680-104534-11), HP0085B-CS18" (680-104534-12), HP0085B-CS24" (680-104534-13), FM0350A-CS4" (680-104534-14), FM0350B-CS4" (680-104534-15), FM0350C-CS4" (680-104534-16), FM0350D-CS4" (680-104534-17) and FM0350A-CSD4" (680-104534-18) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

Sample Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-104534-1	CV0004A-CS4"	Solid	08/18/14 15:15	08/22/14 09:26
680-104534-2	CV0004B-CS4"	Solid	08/18/14 15:45	08/22/14 09:26
680-104534-3	CV0163A-CS4"	Solid	08/18/14 16:20	08/22/14 09:26
680-104534-4	CV0163B-CS4"	Solid	08/18/14 16:40	08/22/14 09:26
680-104534-5	HP0085A-CS6"	Solid	08/19/14 09:10	08/22/14 09:26
680-104534-6	HP0085A-CS12"	Solid	08/19/14 09:20	08/22/14 09:26
680-104534-7	HP0085A-CSD12"	Solid	08/19/14 09:25	08/22/14 09:26
680-104534-8	HP0085A-CS18"	Solid	08/19/14 09:30	08/22/14 09:26
680-104534-9	HP0085A-CS24"	Solid	08/19/14 09:40	08/22/14 09:26
680-104534-10	HP0085B-CS6"	Solid	08/19/14 11:40	08/22/14 09:26
680-104534-11	HP0085B-CS12"	Solid	08/19/14 11:45	08/22/14 09:26
680-104534-12	HP0085B-CS18"	Solid	08/19/14 12:00	08/22/14 09:26
680-104534-13	HP0085B-CS24"	Solid	08/19/14 12:15	08/22/14 09:26
680-104534-14	FM0350A-CS4"	Solid	08/19/14 14:45	08/22/14 09:26
680-104534-15	FM0350B-CS4"	Solid	08/19/14 15:15	08/22/14 09:26
680-104534-16	FM0350C-CS4"	Solid	08/19/14 15:00	08/22/14 09:26
680-104534-17	FM0350D-CS4"	Solid	08/19/14 15:30	08/22/14 09:26
680-104534-18	FM0350A-CSD4"	Solid	08/19/14 14:50	08/22/14 09:26

Method Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Method	Method Description	Protocol	Laboratory
8270D_LL_PAH	Semivolatile Organic Compounds (GC/MS) Low level PAH	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
Moisture	Percent Moisture	EPA	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0004A-CS4"

Lab Sample ID: 680-104534-1

Date Collected: 08/18/14 15:15

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 80.6

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Acenaphthylene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Anthracene	64	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Benzo[a]anthracene	410		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Benzo[a]pyrene	390		83	15	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Benzo[b]fluoranthene	660		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Benzo[g,h,i]perylene	330		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Benzo[k]fluoranthene	260		83	25	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Chrysene	470		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Dibenz(a,h)anthracene	97		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Fluoranthene	730		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Fluorene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Indeno[1,2,3-cd]pyrene	250		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
1-Methylnaphthalene	77	J	83	38	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
2-Methylnaphthalene	77	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Naphthalene	54	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Phenanthrene	400		83	30	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10
Pyrene	640		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 14:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 14:49	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7100		11	4.2	mg/Kg	☼	08/23/14 07:56	08/26/14 00:03	1
Arsenic	9.9		0.28	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:03	1
Iron	18000	B	28	11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:03	1
Lead	140		0.22	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:03	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0004B-CS4"

Lab Sample ID: 680-104534-2

Date Collected: 08/18/14 15:45

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 81.0

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Acenaphthylene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Anthracene	54	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Benzo[a]anthracene	240		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Benzo[a]pyrene	220		83	15	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Benzo[b]fluoranthene	370		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Benzo[g,h,i]perylene	160		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Benzo[k]fluoranthene	140		83	25	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Chrysene	320		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Dibenz(a,h)anthracene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Fluoranthene	420		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Fluorene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Indeno[1,2,3-cd]pyrene	110		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
1-Methylnaphthalene	85		83	38	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
2-Methylnaphthalene	120		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Naphthalene	100		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Phenanthrene	350		83	30	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10
Pyrene	390		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:12	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 15:12	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12000		11	4.3	mg/Kg	☼	08/23/14 07:56	08/26/14 00:39	1
Arsenic	19		0.29	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:39	1
Iron	43000	B	29	11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:39	1
Lead	120		0.23	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:39	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0163A-CS4"

Lab Sample ID: 680-104534-3

Date Collected: 08/18/14 16:20

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 80.6

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Acenaphthylene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Anthracene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Benzo[a]anthracene	170		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Benzo[a]pyrene	170		83	15	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Benzo[b]fluoranthene	280		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Benzo[g,h,i]perylene	160		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Benzo[k]fluoranthene	130		83	25	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Chrysene	220		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Dibenz(a,h)anthracene	47	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Fluoranthene	260		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Fluorene	83	U	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Indeno[1,2,3-cd]pyrene	82	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
1-Methylnaphthalene	99		83	38	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
2-Methylnaphthalene	110		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Naphthalene	76	J	83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Phenanthrene	200		83	30	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10
Pyrene	270		83	41	ug/Kg	☼	08/22/14 22:13	08/25/14 15:34	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 15:34	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000		11	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 00:46	1
Arsenic	20		0.26	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:46	1
Iron	28000	B	26	11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:46	1
Lead	150		0.21	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 00:46	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0163B-CS4"

Lab Sample ID: 680-104534-4

Date Collected: 08/18/14 16:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 81.8

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	82	U	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Acenaphthylene	82	U	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Anthracene	82	U	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Benzo[a]anthracene	220		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Benzo[a]pyrene	230		82	15	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Benzo[b]fluoranthene	370		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Benzo[g,h,i]perylene	190		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Benzo[k]fluoranthene	130		82	24	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Chrysene	260		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Dibenz(a,h)anthracene	82	U	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Fluoranthene	340		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Fluorene	82	U	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Indeno[1,2,3-cd]pyrene	120		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
1-Methylnaphthalene	53	J	82	38	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
2-Methylnaphthalene	62	J	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Naphthalene	61	J	82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Phenanthrene	180		82	29	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10
Pyrene	340		82	40	ug/Kg	☼	08/22/14 22:13	08/25/14 15:56	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 15:56	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		12	4.5	mg/Kg	☼	08/23/14 07:56	08/26/14 00:54	1
Arsenic	33		0.29	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 00:54	1
Iron	53000	B	29	12	mg/Kg	☼	08/23/14 07:56	08/26/14 00:54	1
Lead	300		0.23	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 00:54	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CS6"

Lab Sample ID: 680-104534-5

Date Collected: 08/19/14 09:10

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 85.6

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	78	U	78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Acenaphthylene	180		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Anthracene	180		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Benzo[a]anthracene	1500		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Benzo[a]pyrene	1800		78	14	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Benzo[b]fluoranthene	2200		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Benzo[g,h,i]perylene	1200		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Benzo[k]fluoranthene	1100		78	23	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Chrysene	1300		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Dibenz(a,h)anthracene	290		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Fluoranthene	2500		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Fluorene	78	U	78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Indeno[1,2,3-cd]pyrene	790		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
1-Methylnaphthalene	40	J	78	36	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
2-Methylnaphthalene	64	J	78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Naphthalene	160		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Phenanthrene	810		78	28	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10
Pyrene	3100		78	39	ug/Kg	☼	08/22/14 22:13	08/25/14 16:19	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 16:19	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12000		10	3.9	mg/Kg	☼	08/23/14 07:56	08/26/14 01:16	1
Arsenic	36		0.25	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 01:16	1
Iron	86000	B	100	41	mg/Kg	☼	08/23/14 07:56	08/26/14 14:18	4
Lead	110		0.20	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 01:16	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CS12"

Lab Sample ID: 680-104534-6

Date Collected: 08/19/14 09:20

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 88.0

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.6	U	7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Acenaphthylene	15		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Anthracene	17		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Benzo[a]anthracene	140		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Benzo[a]pyrene	150		7.6	1.4	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Benzo[b]fluoranthene	210		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Benzo[g,h,i]perylene	110		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Benzo[k]fluoranthene	80		7.6	2.3	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Chrysene	130		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Dibenz(a,h)anthracene	27		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Fluoranthene	260		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Fluorene	7.6	U	7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Indeno[1,2,3-cd]pyrene	74		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
1-Methylnaphthalene	7.6	U	7.6	3.5	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
2-Methylnaphthalene	4.7	J	7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Naphthalene	12		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Phenanthrene	79		7.6	2.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1
Pyrene	250		7.6	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	105		36 - 131	08/22/14 22:13	08/29/14 16:30	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	14000		11	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 01:23	1
Arsenic	35		0.27	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:23	1
Iron	84000	B	110	42	mg/Kg	☼	08/23/14 07:56	08/26/14 14:25	4
Lead	53		0.21	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:23	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CSD12"

Lab Sample ID: 680-104534-7

Date Collected: 08/19/14 09:25

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.3

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Acenaphthylene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Anthracene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Benzo[a]anthracene	210		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Benzo[a]pyrene	250		77	14	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Benzo[b]fluoranthene	320		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Benzo[g,h,i]perylene	180		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Benzo[k]fluoranthene	160		77	23	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Chrysene	180		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Dibenz(a,h)anthracene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Fluoranthene	340		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Fluorene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Indeno[1,2,3-cd]pyrene	110		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
1-Methylnaphthalene	77	U	77	36	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
2-Methylnaphthalene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Naphthalene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Phenanthrene	100		77	27	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10
Pyrene	410		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 17:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 17:04	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000		11	4.4	mg/Kg	☼	08/23/14 07:56	08/26/14 01:30	1
Arsenic	39		0.29	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:30	1
Iron	110000	B	110	46	mg/Kg	☼	08/23/14 07:56	08/26/14 14:33	4
Lead	48		0.23	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:30	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CS18"

Lab Sample ID: 680-104534-8

Date Collected: 08/19/14 09:30

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.8

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Acenaphthylene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Anthracene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Benzo[a]anthracene	8.4		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Benzo[a]pyrene	11		7.6	1.4	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Benzo[b]fluoranthene	15		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Benzo[g,h,i]perylene	17		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Benzo[k]fluoranthene	4.2	J	7.6	2.3	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Chrysene	9.3		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Dibenz(a,h)anthracene	7.9		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Fluoranthene	13		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Fluorene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Indeno[1,2,3-cd]pyrene	15		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
1-Methylnaphthalene	7.6	U	7.6	3.5	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
2-Methylnaphthalene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Naphthalene	7.6	U	7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Phenanthrene	5.1	J	7.6	2.7	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1
Pyrene	14		7.6	3.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		36 - 131	08/22/14 22:13	08/26/14 23:03	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000		11	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 01:38	1
Arsenic	42		0.27	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:38	1
Iron	110000	B	110	43	mg/Kg	☼	08/23/14 07:56	08/26/14 14:40	4
Lead	48		0.21	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:38	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CS24"

Lab Sample ID: 680-104534-9

Date Collected: 08/19/14 09:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 85.6

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.8	U	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Acenaphthylene	7.8	U	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Anthracene	7.8	U	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Benzo[a]anthracene	31		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Benzo[a]pyrene	38		7.8	1.4	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Benzo[b]fluoranthene	49		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Benzo[g,h,i]perylene	32		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Benzo[k]fluoranthene	20		7.8	2.3	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Chrysene	32		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Dibenz(a,h)anthracene	8.2		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Fluoranthene	55		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Fluorene	7.8	U	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Indeno[1,2,3-cd]pyrene	28		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
1-Methylnaphthalene	7.8	U	7.8	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
2-Methylnaphthalene	7.8	U	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Naphthalene	5.4	J	7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Phenanthrene	17		7.8	2.8	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1
Pyrene	61		7.8	3.9	ug/Kg	☼	08/22/14 22:13	08/26/14 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	108		36 - 131	08/22/14 22:13	08/26/14 23:26	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	18000		11	4.2	mg/Kg	☼	08/23/14 07:56	08/26/14 01:45	1
Arsenic	56		0.28	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:45	1
Iron	120000	B	110	44	mg/Kg	☼	08/23/14 07:56	08/26/14 14:48	4
Lead	130		0.22	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:45	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085B-CS6"

Lab Sample ID: 680-104534-10

Date Collected: 08/19/14 11:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.4

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Acenaphthylene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Anthracene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Benzo[a]anthracene	46	J	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Benzo[a]pyrene	57	J	77	14	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Benzo[b]fluoranthene	97		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Benzo[g,h,i]perylene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Benzo[k]fluoranthene	36	J	77	23	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Chrysene	71	J	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Dibenz[a,h]anthracene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Fluoranthene	80		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Fluorene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Indeno[1,2,3-cd]pyrene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
1-Methylnaphthalene	77	U	77	35	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
2-Methylnaphthalene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Naphthalene	77	U	77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Phenanthrene	56	J	77	27	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10
Pyrene	84		77	38	ug/Kg	☼	08/22/14 22:13	08/25/14 18:11	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/25/14 18:11	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000		11	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 01:53	1
Arsenic	29		0.26	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:53	1
Iron	68000	B	110	42	mg/Kg	☼	08/23/14 07:56	08/27/14 11:39	4
Lead	160		0.21	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 01:53	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085B-CS12"

Lab Sample ID: 680-104534-11

Date Collected: 08/19/14 11:45

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 90.7

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Acenaphthylene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Anthracene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Benzo[a]anthracene	8.2		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Benzo[a]pyrene	9.2		7.4	1.3	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Benzo[b]fluoranthene	16		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Benzo[g,h,i]perylene	8.4		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Benzo[k]fluoranthene	6.2	J	7.4	2.2	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Chrysene	11		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Dibenz(a,h)anthracene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Fluoranthene	13		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Fluorene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Indeno[1,2,3-cd]pyrene	5.5	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
1-Methylnaphthalene	7.4	U	7.4	3.4	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
2-Methylnaphthalene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Naphthalene	5.2	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Phenanthrene	9.1		7.4	2.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1
Pyrene	13		7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/25/14 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	99		36 - 131	08/22/14 22:13	08/25/14 18:34	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000		11	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 02:00	1
Arsenic	30		0.26	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:00	1
Iron	69000	B	110	42	mg/Kg	☼	08/23/14 07:56	08/27/14 11:47	4
Lead	46		0.21	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:00	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085B-CS18"

Lab Sample ID: 680-104534-12

Date Collected: 08/19/14 12:00

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 90.8

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Acenaphthylene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Anthracene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Benzo[a]anthracene	3.7	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Benzo[a]pyrene	3.9	J	7.4	1.3	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Benzo[b]fluoranthene	6.5	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Benzo[g,h,i]perylene	3.6	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Benzo[k]fluoranthene	2.3	J	7.4	2.2	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Chrysene	6.1	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Dibenz(a,h)anthracene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Fluoranthene	4.6	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Fluorene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Indeno[1,2,3-cd]pyrene	3.6	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
1-Methylnaphthalene	7.4	U	7.4	3.4	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
2-Methylnaphthalene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Naphthalene	7.4	U	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Phenanthrene	5.3	J	7.4	2.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1
Pyrene	4.0	J	7.4	3.6	ug/Kg	☼	08/22/14 22:13	08/26/14 23:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	97		36 - 131	08/22/14 22:13	08/26/14 23:49	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	14000		9.7	3.7	mg/Kg	☼	08/23/14 07:56	08/26/14 02:07	1
Arsenic	63		0.24	0.097	mg/Kg	☼	08/23/14 07:56	08/26/14 02:07	1
Iron	170000	B	240	97	mg/Kg	☼	08/23/14 07:56	08/27/14 11:54	10
Lead	56		0.19	0.097	mg/Kg	☼	08/23/14 07:56	08/26/14 02:07	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085B-CS24"

Lab Sample ID: 680-104534-13

Date Collected: 08/19/14 12:15

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 89.4

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Acenaphthylene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Anthracene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Benzo[a]anthracene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Benzo[a]pyrene	3.0	J	7.5	1.3	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Benzo[b]fluoranthene	4.2	J	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Benzo[g,h,i]perylene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Benzo[k]fluoranthene	7.5	U	7.5	2.2	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Chrysene	3.7	J	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Dibenz[a,h]anthracene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Fluoranthene	4.3	J	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Fluorene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Indeno[1,2,3-cd]pyrene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
1-Methylnaphthalene	7.5	U	7.5	3.5	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
2-Methylnaphthalene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Naphthalene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Phenanthrene	2.9	J	7.5	2.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1
Pyrene	7.5	U	7.5	3.7	ug/Kg	☼	08/22/14 22:13	08/29/14 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	95		36 - 131	08/22/14 22:13	08/29/14 16:53	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	15000		10	3.8	mg/Kg	☼	08/23/14 07:56	08/26/14 02:15	1
Arsenic	50		0.25	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 02:15	1
Iron	140000	B	250	100	mg/Kg	☼	08/23/14 07:56	08/27/14 12:02	10
Lead	81		0.20	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 02:15	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350A-CS4"

Lab Sample ID: 680-104534-14

Date Collected: 08/19/14 14:45

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.4

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Acenaphthylene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Anthracene	87		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Benzo[a]anthracene	670		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Benzo[a]pyrene	700		85	15	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Benzo[b]fluoranthene	1100		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Benzo[g,h,i]perylene	330		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Benzo[k]fluoranthene	450		85	25	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Chrysene	860		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Dibenz[a,h]anthracene	110		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Fluoranthene	1300		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Fluorene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Indeno[1,2,3-cd]pyrene	340		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
1-Methylnaphthalene	87		85	39	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
2-Methylnaphthalene	96		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Naphthalene	82	J	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Phenanthrene	590		85	31	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10
Pyrene	1000		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:12	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/27/14 00:12	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9100		11	4.3	mg/Kg	☼	08/23/14 07:56	08/26/14 02:22	1
Arsenic	19		0.28	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:22	1
Iron	26000	B	28	11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:22	1
Lead	210		0.23	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:22	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350B-CS4"

Lab Sample ID: 680-104534-15

Date Collected: 08/19/14 15:15

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 89.2

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	100		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Acenaphthylene	75	U	75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Anthracene	200		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Benzo[a]anthracene	890		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Benzo[a]pyrene	900		75	13	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Benzo[b]fluoranthene	1500		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Benzo[g,h,i]perylene	410		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Benzo[k]fluoranthene	510		75	22	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Chrysene	1100		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Dibenz[a,h]anthracene	120		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Fluoranthene	1700		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Fluorene	76		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Indeno[1,2,3-cd]pyrene	430		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
1-Methylnaphthalene	120		75	35	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
2-Methylnaphthalene	150		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Naphthalene	120		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Phenanthrene	1100		75	27	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10
Pyrene	1400		75	37	ug/Kg	☼	08/22/14 22:13	08/27/14 00:35	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/27/14 00:35	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		10	4.0	mg/Kg	☼	08/23/14 07:56	08/26/14 02:44	1
Arsenic	23		0.26	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 02:44	1
Iron	38000	B	26	10	mg/Kg	☼	08/23/14 07:56	08/26/14 02:44	1
Lead	140		0.21	0.10	mg/Kg	☼	08/23/14 07:56	08/26/14 02:44	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350C-CS4"

Lab Sample ID: 680-104534-16

Date Collected: 08/19/14 15:00

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 79.2

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Acenaphthylene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Anthracene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Benzo[a]anthracene	140		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Benzo[a]pyrene	160		85	15	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Benzo[b]fluoranthene	310		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Benzo[g,h,i]perylene	84	J	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Benzo[k]fluoranthene	91		85	25	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Chrysene	200		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Dibenz(a,h)anthracene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Fluoranthene	300		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Fluorene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Indeno[1,2,3-cd]pyrene	51	J	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
1-Methylnaphthalene	85	U	85	39	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
2-Methylnaphthalene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Naphthalene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Phenanthrene	160		85	30	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10
Pyrene	240		85	42	ug/Kg	☼	08/22/14 22:13	08/27/14 00:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	0	D	36 - 131	08/22/14 22:13	08/27/14 00:58	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7400		11	4.3	mg/Kg	☼	08/23/14 07:56	08/26/14 02:51	1
Arsenic	11		0.28	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:51	1
Iron	19000	B	28	11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:51	1
Lead	300		0.23	0.11	mg/Kg	☼	08/23/14 07:56	08/26/14 02:51	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350D-CS4"

Lab Sample ID: 680-104534-17

Date Collected: 08/19/14 15:30

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.3

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	86	U	86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Acenaphthylene	86	U	86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Anthracene	91		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Benzo[a]anthracene	540		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Benzo[a]pyrene	520		86	15	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Benzo[b]fluoranthene	910		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Benzo[g,h,i]perylene	210		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Benzo[k]fluoranthene	290		86	26	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Chrysene	630		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Dibenz(a,h)anthracene	62	J	86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Fluoranthene	1200		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Fluorene	86	U	86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Indeno[1,2,3-cd]pyrene	210		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
1-Methylnaphthalene	91		86	40	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
2-Methylnaphthalene	99		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Naphthalene	73	J	86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Phenanthrene	640		86	31	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10
Pyrene	850		86	42	ug/Kg	☼	08/22/14 22:13	08/27/14 01:21	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	0	D	36 - 131	08/22/14 22:13	08/27/14 01:21	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7800		12	4.4	mg/Kg	☼	08/23/14 07:56	08/26/14 02:59	1
Arsenic	9.7		0.29	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 02:59	1
Iron	15000	B	29	12	mg/Kg	☼	08/23/14 07:56	08/26/14 02:59	1
Lead	180		0.23	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 02:59	1

Client Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350A-CSD4"

Lab Sample ID: 680-104534-18

Date Collected: 08/19/14 14:50

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.9

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Acenaphthylene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Anthracene	74	J	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Benzo[a]anthracene	600		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Benzo[a]pyrene	580		85	15	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Benzo[b]fluoranthene	920		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Benzo[g,h,i]perylene	420		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Benzo[k]fluoranthene	400		85	25	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Chrysene	700		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Dibenz(a,h)anthracene	160		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Fluoranthene	1100		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Fluorene	85	U	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Indeno[1,2,3-cd]pyrene	330		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
1-Methylnaphthalene	71	J	85	39	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
2-Methylnaphthalene	79	J	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Naphthalene	62	J	85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Phenanthrene	440		85	30	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10
Pyrene	820		85	42	ug/Kg	☼	08/22/14 22:13	08/29/14 16:07	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	0	D	36 - 131	08/22/14 22:13	08/29/14 16:07	10

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7100		12	4.6	mg/Kg	☼	08/23/14 07:56	08/26/14 03:06	1
Arsenic	14		0.30	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 03:06	1
Iron	20000	B	30	12	mg/Kg	☼	08/23/14 07:56	08/26/14 03:06	1
Lead	210		0.24	0.12	mg/Kg	☼	08/23/14 07:56	08/26/14 03:06	1

QC Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Lab Sample ID: MB 680-345506/21-A

Matrix: Solid

Analysis Batch: 345693

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 345506

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Acenaphthylene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Anthracene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Benzo[a]anthracene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Benzo[a]pyrene	6.7	U	6.7	1.2	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Benzo[b]fluoranthene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Benzo[g,h,i]perylene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Benzo[k]fluoranthene	6.7	U	6.7	2.0	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Chrysene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Dibenz(a,h)anthracene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Fluoranthene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Fluorene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Indeno[1,2,3-cd]pyrene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
1-Methylnaphthalene	6.7	U	6.7	3.1	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
2-Methylnaphthalene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Naphthalene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Phenanthrene	6.7	U	6.7	2.4	ug/Kg		08/22/14 22:13	08/25/14 13:20	1
Pyrene	6.7	U	6.7	3.3	ug/Kg		08/22/14 22:13	08/25/14 13:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	126		36 - 131	08/22/14 22:13	08/25/14 13:20	1

Lab Sample ID: LCS 680-345506/22-A

Matrix: Solid

Analysis Batch: 345693

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 345506

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	333	301		ug/Kg		90	33 - 130
Acenaphthylene	333	286		ug/Kg		86	37 - 131
Anthracene	333	310		ug/Kg		93	42 - 146
Benzo[a]anthracene	333	335		ug/Kg		101	39 - 157
Benzo[a]pyrene	333	344		ug/Kg		103	41 - 158
Benzo[b]fluoranthene	333	354		ug/Kg		106	35 - 152
Benzo[g,h,i]perylene	333	341		ug/Kg		102	32 - 150
Benzo[k]fluoranthene	333	307		ug/Kg		92	38 - 148
Chrysene	333	288		ug/Kg		86	38 - 147
Dibenz(a,h)anthracene	333	330		ug/Kg		99	32 - 155
Fluoranthene	333	321		ug/Kg		96	36 - 147
Fluorene	333	290		ug/Kg		87	36 - 138
Indeno[1,2,3-cd]pyrene	333	328		ug/Kg		98	35 - 148
1-Methylnaphthalene	333	278		ug/Kg		84	36 - 130
2-Methylnaphthalene	333	286		ug/Kg		86	42 - 130
Naphthalene	333	281		ug/Kg		84	33 - 130
Phenanthrene	333	321		ug/Kg		96	40 - 135
Pyrene	333	305		ug/Kg		92	38 - 145

TestAmerica Savannah

QC Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: LCS 680-345506/22-A
Matrix: Solid
Analysis Batch: 345693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 345506

Surrogate	LCS %Recovery	LCS Qualifier	Limits
<i>o</i> -Terphenyl	116		36 - 131

Lab Sample ID: 680-104534-1 MS
Matrix: Solid
Analysis Batch: 345693

Client Sample ID: CV0004A-CS4"
Prep Type: Total/NA
Prep Batch: 345506

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec.		
	Result	Qualifier	Added	Result	Qualifier			Limits		
Acenaphthene	83	U	413	345		ug/Kg	☼	84	33 - 130	
Acenaphthylene	83	U	413	340		ug/Kg	☼	82	37 - 131	
Anthracene	64	J	413	372		ug/Kg	☼	75	42 - 146	
Benzo[a]anthracene	410		413	715		ug/Kg	☼	74	39 - 157	
Benzo[a]pyrene	390		413	676		ug/Kg	☼	69	41 - 158	
Benzo[b]fluoranthene	660		413	859		ug/Kg	☼	48	35 - 152	
Benzo[g,h,i]perylene	330		413	658		ug/Kg	☼	80	32 - 150	
Benzo[k]fluoranthene	260		413	501		ug/Kg	☼	58	38 - 148	
Chrysene	470		413	711		ug/Kg	☼	59	38 - 147	
Dibenz(a,h)anthracene	97		413	482		ug/Kg	☼	93	32 - 155	
Fluoranthene	730		413	1020		ug/Kg	☼	69	36 - 147	
Fluorene	83	U	413	343		ug/Kg	☼	83	36 - 138	
Indeno[1,2,3-cd]pyrene	250		413	632		ug/Kg	☼	92	35 - 148	
1-Methylnaphthalene	77	J	413	379		ug/Kg	☼	73	36 - 130	
2-Methylnaphthalene	77	J	413	380		ug/Kg	☼	73	42 - 130	
Naphthalene	54	J	413	355		ug/Kg	☼	73	33 - 130	
Phenanthrene	400		413	709		ug/Kg	☼	75	40 - 135	
Pyrene	640		413	813		ug/Kg	☼	41	38 - 145	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
o-Terphenyl	0	D	36 - 131							

Lab Sample ID: 680-104534-1 MSD
Matrix: Solid
Analysis Batch: 345693

Client Sample ID: CV0004A-CS4"
Prep Type: Total/NA
Prep Batch: 345506

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	83	U	413	376		ug/Kg	☼	91	33 - 130	8	50
Acenaphthylene	83	U	413	367		ug/Kg	☼	89	37 - 131	8	50
Anthracene	64	J	413	416		ug/Kg	☼	85	42 - 146	11	50
Benzo[a]anthracene	410		413	841		ug/Kg	☼	105	39 - 157	16	50
Benzo[a]pyrene	390		413	793		ug/Kg	☼	97	41 - 158	16	50
Benzo[b]fluoranthene	660		413	1060		ug/Kg	☼	96	35 - 152	21	50
Benzo[g,h,i]perylene	330		413	676		ug/Kg	☼	84	32 - 150	3	50
Benzo[k]fluoranthene	260		413	698		ug/Kg	☼	105	38 - 148	33	50
Chrysene	470		413	809		ug/Kg	☼	83	38 - 147	13	50
Dibenz(a,h)anthracene	97		413	477		ug/Kg	☼	92	32 - 155	1	50
Fluoranthene	730		413	1210		ug/Kg	☼	115	36 - 147	17	50
Fluorene	83	U	413	357		ug/Kg	☼	86	36 - 138	4	50
Indeno[1,2,3-cd]pyrene	250		413	598		ug/Kg	☼	84	35 - 148	5	50
1-Methylnaphthalene	77	J	413	405		ug/Kg	☼	79	36 - 130	7	50

TestAmerica Savannah

QC Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: 680-104534-1 MSD

Matrix: Solid

Analysis Batch: 345693

Client Sample ID: CV0004A-CS4"

Prep Type: Total/NA

Prep Batch: 345506

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylnaphthalene	77	J	413	401		ug/Kg	☼	79	42 - 130	5	50
Naphthalene	54	J	413	375		ug/Kg	☼	78	33 - 130	5	50
Phenanthrene	400		413	829		ug/Kg	☼	104	40 - 135	16	50
Pyrene	640		413	1050		ug/Kg	☼	98	38 - 145	25	50
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
<i>o</i> -Terphenyl	0	D		36 - 131							

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-345543/1-A

Matrix: Solid

Analysis Batch: 345970

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 345543

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	9.4	U	9.4	3.6	mg/Kg		08/23/14 07:56	08/25/14 23:48	1
Arsenic	0.24	U	0.24	0.094	mg/Kg		08/23/14 07:56	08/25/14 23:48	1
Iron	156		24	9.4	mg/Kg		08/23/14 07:56	08/25/14 23:48	1
Lead	0.19	U	0.19	0.094	mg/Kg		08/23/14 07:56	08/25/14 23:48	1

Lab Sample ID: LCS 680-345543/2-A

Matrix: Solid

Analysis Batch: 345970

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 345543

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	455	539		mg/Kg		119	75 - 125
Arsenic	9.09	10.1		mg/Kg		111	75 - 125
Iron	455	568		mg/Kg		125	75 - 125
Lead	4.55	4.81		mg/Kg		106	75 - 125

Lab Sample ID: 680-104534-1 MS

Matrix: Solid

Analysis Batch: 345970

Client Sample ID: CV0004A-CS4"

Prep Type: Total/NA

Prep Batch: 345543

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	7100		554	8930	4	mg/Kg	☼	329	75 - 125
Arsenic	9.9		11.1	22.2		mg/Kg	☼	111	75 - 125
Iron	18000	B	554	19300	4	mg/Kg	☼	211	75 - 125
Lead	140		5.54	138	4	mg/Kg	☼	55	75 - 125

Lab Sample ID: 680-104534-1 MSD

Matrix: Solid

Analysis Batch: 345970

Client Sample ID: CV0004A-CS4"

Prep Type: Total/NA

Prep Batch: 345543

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	7100		544	9080	4	mg/Kg	☼	362	75 - 125	2	20
Arsenic	9.9		10.9	23.0		mg/Kg	☼	120	75 - 125	4	20
Iron	18000	B	544	25100	4 F2	mg/Kg	☼	1284	75 - 125	26	20

TestAmerica Savannah

QC Sample Results

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 680-104534-1 MSD

Matrix: Solid

Analysis Batch: 345970

Client Sample ID: CV0004A-CS4"

Prep Type: Total/NA

Prep Batch: 345543

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	140		5.44	117	4	mg/Kg	✱	-334	75 - 125	17	20

QC Association Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

GC/MS Semi VOA

Prep Batch: 345506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-1	CV0004A-CS4"	Total/NA	Solid	3546	
680-104534-1 MS	CV0004A-CS4"	Total/NA	Solid	3546	
680-104534-1 MSD	CV0004A-CS4"	Total/NA	Solid	3546	
680-104534-2	CV0004B-CS4"	Total/NA	Solid	3546	
680-104534-3	CV0163A-CS4"	Total/NA	Solid	3546	
680-104534-4	CV0163B-CS4"	Total/NA	Solid	3546	
680-104534-5	HP0085A-CS6"	Total/NA	Solid	3546	
680-104534-6	HP0085A-CS12"	Total/NA	Solid	3546	
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	3546	
680-104534-8	HP0085A-CS18"	Total/NA	Solid	3546	
680-104534-9	HP0085A-CS24"	Total/NA	Solid	3546	
680-104534-10	HP0085B-CS6"	Total/NA	Solid	3546	
680-104534-11	HP0085B-CS12"	Total/NA	Solid	3546	
680-104534-12	HP0085B-CS18"	Total/NA	Solid	3546	
680-104534-13	HP0085B-CS24"	Total/NA	Solid	3546	
680-104534-14	FM0350A-CS4"	Total/NA	Solid	3546	
680-104534-15	FM0350B-CS4"	Total/NA	Solid	3546	
680-104534-16	FM0350C-CS4"	Total/NA	Solid	3546	
680-104534-17	FM0350D-CS4"	Total/NA	Solid	3546	
680-104534-18	FM0350A-CSD4"	Total/NA	Solid	3546	
LCS 680-345506/22-A	Lab Control Sample	Total/NA	Solid	3546	
MB 680-345506/21-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 345693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-1	CV0004A-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-1 MS	CV0004A-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-1 MSD	CV0004A-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-2	CV0004B-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-3	CV0163A-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-4	CV0163B-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-5	HP0085A-CS6"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-10	HP0085B-CS6"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-11	HP0085B-CS12"	Total/NA	Solid	8270D_LL_PAH	345506
LCS 680-345506/22-A	Lab Control Sample	Total/NA	Solid	8270D_LL_PAH	345506
MB 680-345506/21-A	Method Blank	Total/NA	Solid	8270D_LL_PAH	345506

Analysis Batch: 345964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-8	HP0085A-CS18"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-9	HP0085A-CS24"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-12	HP0085B-CS18"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-14	FM0350A-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-15	FM0350B-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-16	FM0350C-CS4"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-17	FM0350D-CS4"	Total/NA	Solid	8270D_LL_PAH	345506

Analysis Batch: 346540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-6	HP0085A-CS12"	Total/NA	Solid	8270D_LL_PAH	345506

TestAmerica Savannah

QC Association Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

GC/MS Semi VOA (Continued)

Analysis Batch: 346540 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-13	HP0085B-CS24"	Total/NA	Solid	8270D_LL_PAH	345506
680-104534-18	FM0350A-CSD4"	Total/NA	Solid	8270D_LL_PAH	345506

Metals

Prep Batch: 345543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-1	CV0004A-CS4"	Total/NA	Solid	3050B	
680-104534-1 MS	CV0004A-CS4"	Total/NA	Solid	3050B	
680-104534-1 MSD	CV0004A-CS4"	Total/NA	Solid	3050B	
680-104534-2	CV0004B-CS4"	Total/NA	Solid	3050B	
680-104534-3	CV0163A-CS4"	Total/NA	Solid	3050B	
680-104534-4	CV0163B-CS4"	Total/NA	Solid	3050B	
680-104534-5	HP0085A-CS6"	Total/NA	Solid	3050B	
680-104534-6	HP0085A-CS12"	Total/NA	Solid	3050B	
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	3050B	
680-104534-8	HP0085A-CS18"	Total/NA	Solid	3050B	
680-104534-9	HP0085A-CS24"	Total/NA	Solid	3050B	
680-104534-10	HP0085B-CS6"	Total/NA	Solid	3050B	
680-104534-11	HP0085B-CS12"	Total/NA	Solid	3050B	
680-104534-12	HP0085B-CS18"	Total/NA	Solid	3050B	
680-104534-13	HP0085B-CS24"	Total/NA	Solid	3050B	
680-104534-14	FM0350A-CS4"	Total/NA	Solid	3050B	
680-104534-15	FM0350B-CS4"	Total/NA	Solid	3050B	
680-104534-16	FM0350C-CS4"	Total/NA	Solid	3050B	
680-104534-17	FM0350D-CS4"	Total/NA	Solid	3050B	
680-104534-18	FM0350A-CSD4"	Total/NA	Solid	3050B	
LCS 680-345543/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 680-345543/1-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 345970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-1	CV0004A-CS4"	Total/NA	Solid	6020A	345543
680-104534-1 MS	CV0004A-CS4"	Total/NA	Solid	6020A	345543
680-104534-1 MSD	CV0004A-CS4"	Total/NA	Solid	6020A	345543
680-104534-2	CV0004B-CS4"	Total/NA	Solid	6020A	345543
680-104534-3	CV0163A-CS4"	Total/NA	Solid	6020A	345543
680-104534-4	CV0163B-CS4"	Total/NA	Solid	6020A	345543
680-104534-5	HP0085A-CS6"	Total/NA	Solid	6020A	345543
680-104534-6	HP0085A-CS12"	Total/NA	Solid	6020A	345543
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	6020A	345543
680-104534-8	HP0085A-CS18"	Total/NA	Solid	6020A	345543
680-104534-9	HP0085A-CS24"	Total/NA	Solid	6020A	345543
680-104534-10	HP0085B-CS6"	Total/NA	Solid	6020A	345543
680-104534-11	HP0085B-CS12"	Total/NA	Solid	6020A	345543
680-104534-12	HP0085B-CS18"	Total/NA	Solid	6020A	345543
680-104534-13	HP0085B-CS24"	Total/NA	Solid	6020A	345543
680-104534-14	FM0350A-CS4"	Total/NA	Solid	6020A	345543
680-104534-15	FM0350B-CS4"	Total/NA	Solid	6020A	345543
680-104534-16	FM0350C-CS4"	Total/NA	Solid	6020A	345543

TestAmerica Savannah

QC Association Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Metals (Continued)

Analysis Batch: 345970 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-17	FM0350D-CS4"	Total/NA	Solid	6020A	345543
680-104534-18	FM0350A-CSD4"	Total/NA	Solid	6020A	345543
LCS 680-345543/2-A	Lab Control Sample	Total/NA	Solid	6020A	345543
MB 680-345543/1-A	Method Blank	Total/NA	Solid	6020A	345543

Analysis Batch: 346224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-5	HP0085A-CS6"	Total/NA	Solid	6020A	345543
680-104534-6	HP0085A-CS12"	Total/NA	Solid	6020A	345543
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	6020A	345543
680-104534-8	HP0085A-CS18"	Total/NA	Solid	6020A	345543
680-104534-9	HP0085A-CS24"	Total/NA	Solid	6020A	345543
680-104534-10	HP0085B-CS6"	Total/NA	Solid	6020A	345543
680-104534-11	HP0085B-CS12"	Total/NA	Solid	6020A	345543
680-104534-12	HP0085B-CS18"	Total/NA	Solid	6020A	345543
680-104534-13	HP0085B-CS24"	Total/NA	Solid	6020A	345543

General Chemistry

Analysis Batch: 345456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-104534-1	CV0004A-CS4"	Total/NA	Solid	Moisture	
680-104534-1 MS	CV0004A-CS4"	Total/NA	Solid	Moisture	
680-104534-1 MSD	CV0004A-CS4"	Total/NA	Solid	Moisture	
680-104534-2	CV0004B-CS4"	Total/NA	Solid	Moisture	
680-104534-3	CV0163A-CS4"	Total/NA	Solid	Moisture	
680-104534-4	CV0163B-CS4"	Total/NA	Solid	Moisture	
680-104534-5	HP0085A-CS6"	Total/NA	Solid	Moisture	
680-104534-6	HP0085A-CS12"	Total/NA	Solid	Moisture	
680-104534-7	HP0085A-CSD12"	Total/NA	Solid	Moisture	
680-104534-8	HP0085A-CS18"	Total/NA	Solid	Moisture	
680-104534-9	HP0085A-CS24"	Total/NA	Solid	Moisture	
680-104534-10	HP0085B-CS6"	Total/NA	Solid	Moisture	
680-104534-11	HP0085B-CS12"	Total/NA	Solid	Moisture	
680-104534-12	HP0085B-CS18"	Total/NA	Solid	Moisture	
680-104534-13	HP0085B-CS24"	Total/NA	Solid	Moisture	
680-104534-14	FM0350A-CS4"	Total/NA	Solid	Moisture	
680-104534-15	FM0350B-CS4"	Total/NA	Solid	Moisture	
680-104534-16	FM0350C-CS4"	Total/NA	Solid	Moisture	
680-104534-17	FM0350D-CS4"	Total/NA	Solid	Moisture	
680-104534-18	FM0350A-CSD4"	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0004A-CS4"

Date Collected: 08/18/14 15:15

Date Received: 08/22/14 09:26

Lab Sample ID: 680-104534-1

Matrix: Solid

Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.02 g	1 mL	345693	08/25/14 14:49	RAM	TAL SAV
Instrument ID: CMSY										
Total/NA	Prep	3050B			1.12 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.12 g	500 mL	345970	08/26/14 00:03	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: CV0004B-CS4"

Date Collected: 08/18/14 15:45

Date Received: 08/22/14 09:26

Lab Sample ID: 680-104534-2

Matrix: Solid

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.05 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.05 g	1 mL	345693	08/25/14 15:12	RAM	TAL SAV
Instrument ID: CMSY										
Total/NA	Prep	3050B			1.08 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.08 g	500 mL	345970	08/26/14 00:39	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: CV0163A-CS4"

Date Collected: 08/18/14 16:20

Date Received: 08/22/14 09:26

Lab Sample ID: 680-104534-3

Matrix: Solid

Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.02 g	1 mL	345693	08/25/14 15:34	RAM	TAL SAV
Instrument ID: CMSY										
Total/NA	Prep	3050B			1.18 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.18 g	500 mL	345970	08/26/14 00:46	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: CV0163B-CS4"

Date Collected: 08/18/14 16:40

Date Received: 08/22/14 09:26

Lab Sample ID: 680-104534-4

Matrix: Solid

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.04 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: CV0163B-CS4"

Lab Sample ID: 680-104534-4

Date Collected: 08/18/14 16:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D_LL_PAH		10	30.04 g	1 mL	345693	08/25/14 15:56	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.04 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.04 g	500 mL	345970	08/26/14 00:54	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: HP0085A-CS6"

Lab Sample ID: 680-104534-5

Date Collected: 08/19/14 09:10

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.01 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.01 g	1 mL	345693	08/25/14 16:19	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.15 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.15 g	500 mL	345970	08/26/14 01:16	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.15 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.15 g	500 mL	346224	08/26/14 14:18	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: HP0085A-CS12"

Lab Sample ID: 680-104534-6

Date Collected: 08/19/14 09:20

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		1	30.02 g	1 mL	346540	08/29/14 16:30	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.07 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.07 g	500 mL	345970	08/26/14 01:23	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.07 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.07 g	500 mL	346224	08/26/14 14:25	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CSD12"

Lab Sample ID: 680-104534-7

Date Collected: 08/19/14 09:25

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.01 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.01 g	1 mL	345693	08/25/14 17:04	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.00 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.00 g	500 mL	345970	08/26/14 01:30	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.00 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.00 g	500 mL	346224	08/26/14 14:33	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: HP0085A-CS18"

Lab Sample ID: 680-104534-8

Date Collected: 08/19/14 09:30

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.01 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		1	30.01 g	1 mL	345964	08/26/14 23:03	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.07 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.07 g	500 mL	345970	08/26/14 01:38	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.07 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.07 g	500 mL	346224	08/26/14 14:40	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: HP0085A-CS24"

Lab Sample ID: 680-104534-9

Date Collected: 08/19/14 09:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		1	30.02 g	1 mL	345964	08/26/14 23:26	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.06 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.06 g	500 mL	345970	08/26/14 01:45	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.06 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.06 g	500 mL	346224	08/26/14 14:48	BWR	TAL SAV
		Instrument ID: ICPMSA								

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085A-CS24"

Lab Sample ID: 680-104534-9

Date Collected: 08/19/14 09:40

Matrix: Solid

Date Received: 08/22/14 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: HP0085B-CS6"

Lab Sample ID: 680-104534-10

Date Collected: 08/19/14 11:40

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.01 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.01 g	1 mL	345693	08/25/14 18:11	RAM	TAL SAV
Instrument ID: CMSY										
Total/NA	Prep	3050B			1.08 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.08 g	500 mL	345970	08/26/14 01:53	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Prep	3050B			1.08 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.08 g	500 mL	346224	08/27/14 11:39	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: HP0085B-CS12"

Lab Sample ID: 680-104534-11

Date Collected: 08/19/14 11:45

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.01 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		1	30.01 g	1 mL	345693	08/25/14 18:34	RAM	TAL SAV
Instrument ID: CMSY										
Total/NA	Prep	3050B			1.05 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.05 g	500 mL	345970	08/26/14 02:00	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Prep	3050B			1.05 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		4	1.05 g	500 mL	346224	08/27/14 11:47	BWR	TAL SAV
Instrument ID: ICPMSA										
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: HP0085B-CS18"

Lab Sample ID: 680-104534-12

Date Collected: 08/19/14 12:00

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.04 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: HP0085B-CS18"

Lab Sample ID: 680-104534-12

Date Collected: 08/19/14 12:00

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D_LL_PAH		1	30.04 g	1 mL	345964	08/26/14 23:49	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.13 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.13 g	500 mL	345970	08/26/14 02:07	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.13 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		10	1.13 g	500 mL	346224	08/27/14 11:54	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: HP0085B-CS24"

Lab Sample ID: 680-104534-13

Date Collected: 08/19/14 12:15

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.05 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		1	30.05 g	1 mL	346540	08/29/14 16:53	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.12 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.12 g	500 mL	345970	08/26/14 02:15	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Prep	3050B			1.12 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		10	1.12 g	500 mL	346224	08/27/14 12:02	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: FM0350A-CS4"

Lab Sample ID: 680-104534-14

Date Collected: 08/19/14 14:45

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.03 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.03 g	1 mL	345964	08/27/14 00:12	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.12 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.12 g	500 mL	345970	08/26/14 02:22	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350B-CS4"

Lab Sample ID: 680-104534-15

Date Collected: 08/19/14 15:15

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.04 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.04 g	1 mL	345964	08/27/14 00:35	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.07 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.07 g	500 mL	345970	08/26/14 02:44	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: FM0350C-CS4"

Lab Sample ID: 680-104534-16

Date Collected: 08/19/14 15:00

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.02 g	1 mL	345964	08/27/14 00:58	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.11 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.11 g	500 mL	345970	08/26/14 02:51	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: FM0350D-CS4"

Lab Sample ID: 680-104534-17

Date Collected: 08/19/14 15:30

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV
Total/NA	Analysis	8270D_LL_PAH		10	30.02 g	1 mL	345964	08/27/14 01:21	NED	TAL SAV
		Instrument ID: CMSK								
Total/NA	Prep	3050B			1.11 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.11 g	500 mL	345970	08/26/14 02:59	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Client Sample ID: FM0350A-CSD4"

Lab Sample ID: 680-104534-18

Date Collected: 08/19/14 14:50

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			30.02 g	1 mL	345506	08/22/14 22:13	JMK	TAL SAV

TestAmerica Savannah

Lab Chronicle

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Client Sample ID: FM0350A-CSD4"

Lab Sample ID: 680-104534-18

Date Collected: 08/19/14 14:50

Matrix: Solid

Date Received: 08/22/14 09:26

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D_LL_PAH		10	30.02 g	1 mL	346540	08/29/14 16:07	RAM	TAL SAV
		Instrument ID: CMSY								
Total/NA	Prep	3050B			1.04 g	500 mL	345543	08/23/14 07:56	CRW	TAL SAV
Total/NA	Analysis	6020A		1	1.04 g	500 mL	345970	08/26/14 03:06	BWR	TAL SAV
		Instrument ID: ICPMSA								
Total/NA	Analysis	Moisture		1			345456	08/22/14 13:43	HML	TAL SAV
		Instrument ID: NOEQUIP								

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



ANALYTICAL ENVIRONMENTAL SERVICES, INC

3785 Presidential Parkway, Atlanta GA 30340-3704

AES

TEL: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188


CHAIN OF CUSTODY

Rev 1/26/15 - LNH

Work Order: _____

Date: 8/20/14 Page 1 of 2

COMPANY: OTIE		ADDRESS: 1220 KENNEDY BLVD MARIETTA		ANALYSIS REQUESTED										Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.		No. of Containers
PHONE: 770-355-5550		FAX:		<div style="display: flex; justify-content: space-around;"> <div>PATHS</div> <div>Pb</div> <div>IRON</div> <div>ARSENIC</div> <div>ALUMINUM</div> </div>												
SAMPLED BY: JERRY PARTAP		SIGNATURE: <i>[Signature]</i>		PRESERVATION (See codes)										REMARKS		
#	SAMPLE ID	DATE	TIME	Grab	Composite	Matrix (See codes)										
1	CV0004A-CS 4"	8/18/14	1515	X	SDIL	X	X	X	X	X						2
2	CV0004B-CS 4"	8/18/14	1545	X	SDIL	X	X	X	X	X						2
3	CV0163A-CS 4"	8/18/14	1620	X	SDIL	X	X	X	X	X						2
4	CV0163B-CS 4" LMH 1/26/15	8/18/14	1640	X	SDIL	X	X	X	X	X						2
5	HP0085A-CS 6"	8/19/14	0910	X	SDIL	X	X	X	X	X						2
6	HP0085A-CS 12"	8/19/14	0920	X	SDIL	X	X	X	X	X						2
7	HP0085A-CS 012"	8/19/14	0925	X	SDIL	X	X	X	X	X						2
8	HP0085A-CS 18"	8/19/14	0930	X	SDIL	X	X	X	X	X						2
9	HP0085A-CS 24"	8/19/14	0940	X	SDIL	X	X	X	X	X						2
10	HP0085B-CS 6"	8/19/14	1140	X	SDIL	X	X	X	X	X						2
11	HP0085B-CS 12"	8/19/14	1145	X	SDIL	X	X	X	X	X						2
12	HP0085B-CS 18"	8/19/14	1200	X	SDIL	X	X	X	X	X						2
13	HP0085B-CS 24"	8/19/14	1215	X	SDIL	X	X	X	X	X						2
14																


 680-104534 Chain of Custody

RELINQUISHED BY: <i>[Signature]</i> DATE/TIME: 8/20/14 1400		RECEIVED BY: <i>[Signature]</i> DATE/TIME: 8/22/14 0920		PROJECT INFORMATION		RECEIPT	
1: <i>[Signature]</i>		1: <i>[Signature]</i>		PROJECT NAME: 35TH AVE INVESTIGATION		Total # of Containers: 56	
2: <i>[Signature]</i>		2: <i>[Signature]</i>		PROJECT #: 680-104534		Turnaround Time Request	
3: <i>[Signature]</i>		3: <i>[Signature]</i>		SITE ADDRESS: 35TH AVE BIRMINGHAM, AL		<input type="radio"/> Standard 5 Business Days <input type="radio"/> 2 Business Day Rush <input type="radio"/> Next Business Day Rush <input type="radio"/> Same Day Rush (auth req.) <input checked="" type="radio"/> Other STD TAT	
SPECIAL INSTRUCTIONS/COMMENTS: STANDARD TURNAROUND TIME		SHIPMENT METHOD: OUT <input type="checkbox"/> IN <input type="checkbox"/> VIA: <input type="checkbox"/> CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER		INVOICE TO: (IF DIFFERENT FROM ABOVE)		STATE PROGRAM (if any):	
				QUOTE #:		E-mail? <input checked="" type="checkbox"/> Y N; Fax? Y/N	
				PO#:		DATA PACKAGE: I II III <input checked="" type="radio"/> IV	

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.
 SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
 PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

1/26/15 - change sample ID for sample -4 From 163A to 163B / LMH





TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

Work Order: _____

Date: 8/20/14 Page 2 of 2

COMPANY: DTIE		ADDRESS: 1220 KENNEDY STONE CIRCLE MARLETTA, GA		ANALYSIS REQUESTED										Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.		No # of Containers			
PHONE: 470-355-5550		FAX:		<div>Analysis Requested Table</div>										REMARKS					
SAMPLED BY: JERRY PATLAP		SIGNATURE: [Signature]																	
#	SAMPLE ID	SAMPLED		Grab	Composite	Matrix (See codes)	PRESERVATION (See codes)										REMARKS		
		DATE	TIME																
1	Fm0350A-CS4"	8/19/14	1445		X	SOIL	X	X	X	X	X						2		
2	Fm0350B-CS4"	8/19/14	1515		X	SOIL	X	X	X	X	X						2		
3	Fm0350C-CS4"	8/19/14	1500		X	SOIL	X	X	X	X	X						2		
4	Fm0350D-CS4"	8/19/14	1530		X	SOIL	X	X	X	X	X						2		
5	Fm0350A-CS4"	8/19/14	1450		X	SOIL	X	X	X	X	X						2		
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
RELINQUISHED BY		DATE/TIME		RECEIVED BY		DATE/TIME		PROJECT INFORMATION										RECEIPT	
1: [Signature]		8/20/14 1400		1: [Signature]		8/22/14 0926		PROJECT NAME: 35TH AVE INVESTIGATION										Total # of Containers 10	
2: [Signature]				2: 680-104534				PROJECT #:										<div>Turnaround Time Request</div>	
3: [Signature]				3: 14.0 ac 13.2 ac				SITE ADDRESS: 35TH AVE BIRMINGHAM, AL											
								SEND REPORT TO: ZUSIERL.HENDERSON@DTIE.COM											
SPECIAL INSTRUCTIONS/COMMENTS: STANDARD TURNAROUND TIME				SHIPMENT METHOD				INVOICE TO: (IF DIFFERENT FROM ABOVE)										STATE PROGRAM (if any):	
				OUT / / VIA:														E-mail? Y / N; Fax? Y / N	
				IN / / VIA:														DATA PACKAGE: I II III IV	
				CLIENT FedEx UPS MAIL COURIER															
				GREYHOUND OTHER															
SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.																			
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.																			

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Page 40 of 42

1/26/2015

Login Sample Receipt Checklist

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-104534-1

SDG Number: 680-104534-01

Login Number: 104534

List Source: TestAmerica Savannah

List Number: 1

Creator: Kicklighter, Marilyn D

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Oneida Total Integrated Enterprises LLC
Project/Site: 35th Avenue Superfund Site

TestAmerica Job ID: 680-104534-1
SDG: 680-104534-01

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	41450	06-30-15